PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

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OCT. 7 1937

Vol. CV
No. 15

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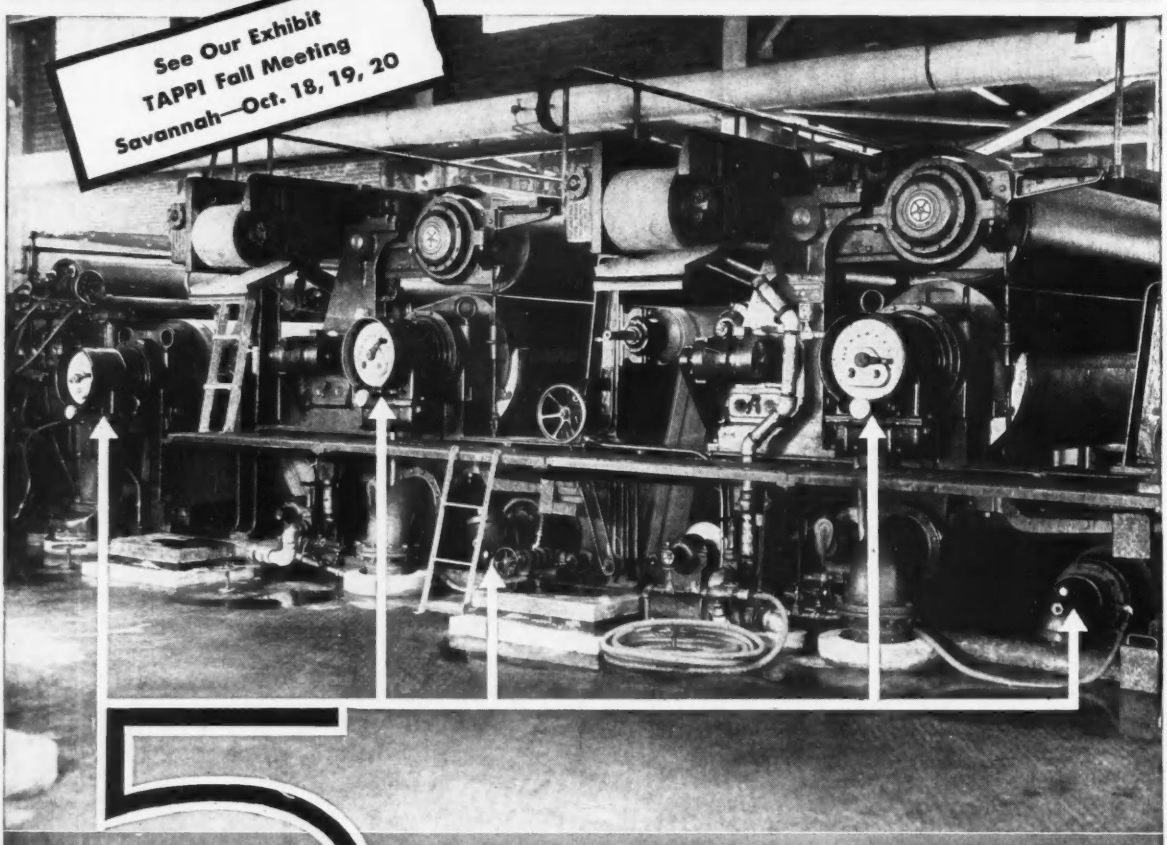

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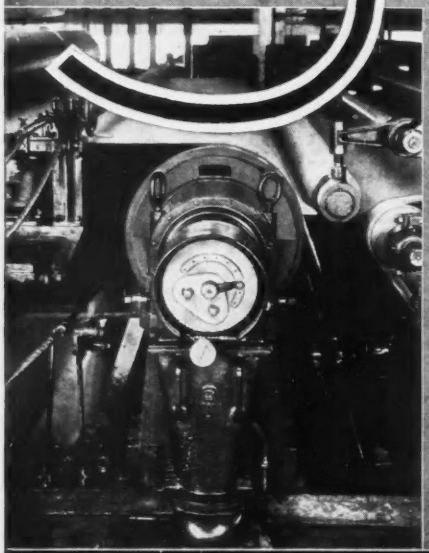

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SIXTY-SIXTH YEAR

PAPER

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Hollingsworth & Whitney Get Site in South

Acquire Control of Large Tract on Mobile River At Magazine Point, Ala., Which Is Said To Be Preliminary To Development of Plans for Establishment of Pulp and Paper Mill — Plans Not Yet Ready for Release.

MOBILE, Ala., October 4, 1937.—Mobile's industrial expansion outlook was given an added boost Monday says the Register in its issue of September 28, with announcement that the Hollingsworth & Whitney Company of Boston had completed arrangements with Mrs. Helen R. Meaher and others for control of a large tract of land on Mobile River and Chickasaw Creek at Magazine Point.

The announcement, made by Chairman D. R. Dunlap and Vice Chairman Mary Lyons of the Chamber of Commerce new industries committee, said that arrangements for control of the land are preliminary to development of plans for establishment of a pulp and paper mill.

Samuel D. DeForest, representing the company, is to continue a study of facilities here, it was stated.

The announcement also declared that plans for construction of the proposed mill and the extent of employment it would provide are not yet ready for release.

Newsprint Expansion Predicted

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 4, 1937.—R. O. Sweezey, president of the Lake Sulphite Pulp Company, told members of the Port Arthur Chamber of Commerce last week that he saw no danger of over-production in the newsprint and pulp industries at present. There was room for considerable expansion in the next three or four years, he said. Taxation policies amounted to persecution, he declared, and drove valuable men out of the country, discouraging them from investments for development of resources. Mr. Sweezey declared the stock markets indicated capital had taken its turn and gone on strike. Prices were down and yields were up.

Marathon Opens New Units

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 4, 1937—Marathon Paper Mills Company has completed building operations at its Menasha Products division at Menasha, Wis., and has begun using them for manufacturing purposes.

One building 225 by 61 feet in size houses a new printing and conversion department on the first floor, and a finishing department on the second floor. The basement is used for storage. It is of flat slab construction, with a beam roof. A warehouse was moved 61 feet to make room for the new unit, and to achieve straight line production.

The second unit is a one-story building housing 16 tanks of the wax refinery. A new bridge 13 feet wide and 10 feet high, with 19 feet clearance from the street connects the new two-story building with the carton department. Electrically driven trucks have been put into use to transfer products and materials.

Loading operations also have been transferred from River street to the west side of the warehouse to eliminate traffic congestion.

James Leck Company of Minneapolis, contractors on the job, finished their work last week.

Great Lakes Paper Progress

TORONTO, Ont., October 4, 1937.—A signed letter by C. H. Carlisle, president of Great Lakes Paper Company Ltd., accompanying notice of payment of interest to bondholders, says: "The company has very materially improved its plants, increased its production and has secured additional timber limits. The plant is working to capacity. The entire output of the plant, on the present basis of consumption, is sold forward for a period of eight years. The company has a satisfactory financial position and a comfortable bank balance. Considering the increase in the cost of production due to higher commodity and labor prices, the earnings of the company are satisfactory."

Rush Work on New Kalamazoo Plant

KALAMAZOO, Mich., October 4, 1937—The Detroit Paper Products Corporation which recently purchased the plant of the Western Board and Paper Company, plans to begin operations within the next two weeks. First operations here will be in the corrugating plant of the company. This division is being transferred to Kalamazoo from Detroit and will employ approximately 125 workers. The paper machine will probably be ready for production by January.

Wisconsin Demand for Pulp Wood Rising

Requirements of Northern Area So Insistent That Federal Forests Open for Selective Cutting of Aspen, Jack Pine and Fir — Kimberly-Clark Sign One Year Wage Contract With Union — Other Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 4, 1937—Demand for pulp wood is so brisk in northern Wisconsin and upper Michigan that federal forests have been opened for selective cutting this fall, and there are predictions of the largest logging operations ever attempted in these areas. Pulp wood operators are being given permission to send their crews into the national forests to undertake the work of thinning out formerly done by C.C.C. crews.

Operations are chiefly in the Nicolet National Forest in Wisconsin, the Ottawa National Forest in Michigan, and the Cheppewa National Forest in Minnesota. Some cutting also will be done in the Chequamegon Forest of Wisconsin. Aspen, jack pine and balsam fir of sufficient maturity will be cut.

Foresters point out that the thinning out will stimulate the growth of the younger trees and improve the forests, as well as producing a record volume of federal revenue from the sale of timber.

Some concern is felt because of the dwindling enrollment of young men in the C.C.C. camps, because they have been largely instrumental in reducing the losses from forest fires. They have proved a trained, readily available crew to check fires at their source. Restrictions have been removed on enrollment so the camps are now offered as a source of employment instead of being purely a relief project.

Foresters Discuss Extension

Extension of industrial forestry was one of the major topics of discussion at a meeting of foresters of eleven states at Wisconsin Rapids, Wis., September 29 and 30 and October 1. It was the annual Central States Forestry Congress, including federal and industrial foresters from Wisconsin, Minnesota, Iowa, Missouri, Illinois, Kentucky, Tennessee, Indiana, Michigan, Ohio and West Virginia.

Benefits of Industrial Forestry

John Alexander, president of the Nekoosa-Edwards Paper Company, spoke at the opening session on the benefits of industrial forestry to the paper industry. Others on the program were Prof. E. R. Jones of the University of Wisconsin, and R. B. Goodman of Marinette, Wis., lumberman and paper mill capitalist who has been instrumental in establishing the Wisconsin reforestation program. A banquet was held on the first evening. A part of the day was devoted to an inspection of dams, dikes, well jetting and fire lane plows.

On the second day's program were Prof. F. B. Trenk of the University of Wisconsin, who is an extension forester, A. G. Hamel, of the United States Forest Service, and F. G. Kilp, chief forester of the Nekoosa-Edwards Paper Company. The afternoon was devoted to an inspection of the Nekoosa-Edwards nurseries and forest plantations, and shelter belt projects.

The closing day's sessions included talks by C. L. Harrington, superintendent of forests for the State of Wisconsin, J. H. Fradette, treasurer of Clark County, Wisconsin, dealing with the question of tax delinquency and utilization of such lands, and Grover Conzet, forester for the State of Minnesota.

Kimberly-Clark Sign Wage Contract

Kimberly-Clark Corporation, Neenah, Wis., signed a one-year contract last week with the newly organized Employees' Independent Union for a continuance of the present wage scales, a basic six-hour day, and a basic 36-hour week. The hourly wage scale provides 60 cents as the minimum for common labor day workers, and 63 cents for common labor shift workers. Members of the central committee representing the unions of the company's six mills in Wisconsin and Niagara Falls, N. Y., signed the contract.

One provision of the agreement provides for a closed shop. All hourly paid employees not above the grade of working foreman must become members of the union by October 20. New employees are allowed a probationary period of sixty days.

The central committee of the union and corporation officials are to hold regular joint meetings semi-annually at Neenah for consideration of matters subject to negotiations under the terms and provisions of the contract. Attached to the contract are approved standard instructions concerning employment policies, vacations, leave of absence, overtime payment, occupational analysis, occupational classification, model rate assignment, lunches, rest relief, tuition reimbursement for approved educational courses, tool policies, and numerous others.

The union has a signed membership of 3,215 as of September 1 out of a potential total of 3,532.

Water Supply in Fox River Ample

Improved water power conditions in the Fox and Wisconsin River Valleys have resulted from fall rains, relieving the acute low water stages caused by drought. Less steam power is being used, and some mills are drawing approximately their normal amount of water for power supply. The Wisconsin Valley Improvement Company's storage reservoirs on the Wisconsin River, including the newly constructed reservoir on the Big Eau Pleine River, showed 7,179,000,000 cubic feet of water last week. A year ago, the storage was 5,662,000,000 cubic feet without the Big Eau Pleine, which was then under construction. This year the storage without the Big Eau Pleine is 5,097,000,000 cubic feet.

Utility Hearing Postponed

A rehearing by the Wisconsin Public Service Commission on a grant of authority to the municipal utility of Menasha, Wis. to install a large steam generating plant has been postponed indefinitely. It was scheduled September 29 at the request of the Wisconsion Michigan Power Company, and both parties re-

quested that it be deferred. The quarrel between the two utilities is the transfer of the Marathon Paper Mills Company's Menasha Products division account at Menasha from the private company to the municipal utility when the new plant is built, with a $75,000 revenue at stake. The City of Menasha was given permission to build a $260,000 plant to generate 2,000 kilowatts, or a $450,000 plant to generate 3,500 kilowatts, depending on its ability to obtain the required customers. The Wisconsin Michigan Power Company contends a former contract between the two utilities prevents the city from accepting large users.

Appleton Approves Wage Scale

A contract carrying provisions for working conditions and wages was approved by the Appleton Coated Paper Company Employees Association, Appleton, Wis., at a meeting last week. The proposal was to be submitted to company officials for approval. Staff officers of the association are Alvin Thies, president, Melvin E. Menier, vice-president, and Alfred Gauerke, secretary-treasurer.

Aim for 100-Day Safety Record

With 52 days of continuous no-accident records accomplished, employees of the Kimberly-Clark Corporation's mill at Kimberly, Wis. are working for a 100-day record. A safety meeting of the employees was held last week at which the goal was explained. A talk on Fire Prevention Week was given by Thomas Milinski, foreman, who urged its observance in the homes. Six individual prizes were awarded for safety records.

Northern Division of Chemists Meet

Meetings have been resumed for the season by the Northeastern Wisconsin section of the American Chemical Society. The first of these was held September 24 at the Institute of Paper Chemistry, Appleton, Wis. Prof. Louis Kalenberg of the University of Wisconsin spoke on "Results of New Researches on Elemental Phosphorus." He illustrated it with many products of phosphorus.

Pulpwood Lost in Wreck

A cargo of 500 cords of pulp wood was lost last week when the motorship C. E. Redfern foundered in Lake Michigan near Frankfort, Mich. The wood was loaded at Nahma, Mich., and was bound for Manistee, Mich. The cargo was insured. Flares sent up brought assistance of the Ann Arbor carferry, which stood by and radioed to the coast guard cutter Escanaba. The crew was taken off safely.

Institute Enrolls 47 Students

Completion of enrollment at the Institute of Paper Chemistry, Appleton, Wis., shows there will be a total of 47 students this year, of which 16 are first year men. Dr. Otto Kress, technical director and Mrs. Kress returned September 26 from a trip around the world this summer. They sailed from San Francisco in June for the Orient, and made their way to Europe by way of Japan, China and Siberia. Dr. Kress observed paper manufacturing operations in many countries.

E. Russell Bartley Goes to Bell Co.

E. Russell Bartley, who has been in the industrial relations department of the Kimberly-Clark Corporation, Neenah, Wis., for the last six years, has accepted a position as personnel manager of the Bell and Howell Company, Chicago, Ill.

Vogt and Landremann Nuptials

Reinhold Vogt, laboratory director of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., and Miss Bertha Reffke of Appleton, Wis., were married September 22 at Zion Lutheran church at Appleton. Mr. Vogt holds a degree from the Institute of Paper Chemistry. The couple will reside at 151 Tenth street, Wisconsin Rapids, following a honeymoon trip, and will be at home after October 10.

Richard U. Landremann, auditor for the Fort Howard Paper Company, Green Bay, Wis., and Miss Eva M. Hendricks, Appleton, Wis., were married October 1 at St. Joseph church at Appleton. They will reside at De Pere, Wis.

Customs Rulings on Paper

A shipment of Finnish M. F. kraft paper to Philadelphia has been held by Customs Officials to have been undervalued, and the importer has protested against the ruling to the United States Customs Court according to announcement by the Import Committee of the American Paper Industry. The paper was sold at about $2.82 per hundred pounds, c.i.f. Philadelphia, but this was held by the appraiser to be too low a dutiable value, and the importer consented to increase the dutiable value to over $3.05 f.o.b. Finnish mill. Later a report of an investigation of Finnish value by Treasury Department attaches abroad showed even this value was too low, so a further advance was made.

An importation of about 40 tons of M. G. kraft wrapping imported in the Middle West was held to be undervalued, and assessed not only with the normal duty of about $500, but an additional duty of over $200, and a penalty duty for undervaluation of over $1,000.

Two importations of duplex kraft from Germany classified for duty at 30 per cent as wrapping paper not specially provided for, claimed by importer to be dutiable after 25 per cent rate for kraft wrapping provided in the Swedish agreement, even though imported from Germany which is barred from the operation of the Reciprocal Trade Agreements.

A Richmond, Va., importer of kraft wrapping paper was denied remission of the additional duty imposed because of the undervaluation of the shipment. The importer asked the remission of the penalty duty on the ground that there was no intent to deprive the Government of revenue.

F. J. Harr Goes to Montreal

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., October 4, 1937—Announcement is made by the Stebbins Engineering and Manufacturing Company of the transfer of F. J. Horr to the Montreal branch where he will serve as manager. Edward F. Tucker, vice-president and treasurer has been recalled to this city after being in charge of the Canadian department for some time. An official of the concern said that the change in personnel was made solely for the purpose of strengthening the administrative department. About a year ago the company erected one of the most modern laboratory and office buildings in the country here. The company has gained wide-spread attention for its inventions besides being noted as manufacturers and installers of chemical devices.

Paper Prices Firm As Activity Declines

Demand for Newsprint and Kraft Holds Up Well As General Paper Market Is Less Active — Demands of Mills for Waste Paper Falls Off—Western Paper Merchants Hold Semi-Annual Meeting — Other Trade News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 4, 1937—A period of quiet and, in some instances, uncertainty, has settled over the Chicago paper market. On one hand are rumors of market difficulties in certain grades of sulphites which are giving concern. On the other are expressed opinions that southern kraft production is beginning to be felt in the general market. The general markets continue to be firm, however, with kraft still continuing to hold firm and with contract prices on sulphites scheduled for further strengthening this week.

Fine papers in general showed little change during the week except for the fact that demand continued to hold off, representing the widespread hesitancy of business in general. Newsprint and ground wood markets as a whole showed a disposition to forge ahead a bit better than their contemporaries with newsprint news, in particular, developing a more optimistic tinge.

Board demand is reported to have improved. Butchers and bag papers also gave a fairly good account of themselves during the week. Books and covers showed no decided change with an undercurrent firm but an obvious concern over the next move of the markets. Exceedingly high costs of production and the hesitancy of the demand make the position of the entire Chicago situation complicated, according to local paper executives. Waste papers in Chicago continue to fare better than the East, with mixed and news in a fair position but with several factors contributing to an indication that the West is soon to get the recession in demand and prices now being experienced in the East.

Western Paper Merchants Meet

George A. Mueller, President of the Western Paper Merchants Association, reports that the Semi-Annual Meeting of the Association, held in conjunction with the National Paper Trade Association Convention, at the Stevens Hotel, in Chicago on September 20th, was well attended and was one of the most interesting meetings ever held. The Business Meeting preceded a dinner which adjourned in time for those who had other plans for the evening to keep them.

A report on a marketing survey regarding "Printers' Fine Paper Buying Habits" in Illinois, Wisconsin, Iowa, Missouri, Nebraska, Kansas and Oklahoma was mentioned. This survey was created, compiled, analyzed and produced in the office of the Association in Chicago. More than 36 per cent of all the printers contacted, sent in reply cards from more than 46 per cent of all the towns in the states surveyed.

Early in October, group meetings will be held in key market centers of the Western Paper Merchants Association and a detailed explanation of this survey will be given by Norman V. Ventriss to all members.

Those present at the Semi-Annual Meeting were: Frank J. Wright, Acme Paper Company, St. Louis; Alfred E. Fuhlage, Beacon Paper Company, St. Louis; Hamilton Vose, Jr., Berkshire Papers, Inc.; J. C. Marvin, Eric Rohrer and E. E. Ludwig, Bermingham and Prosser Company, Chicago; Lester A. Ramaker, The Bouer Paper Company, Milwaukee; W. L. Shea and Arnold McAneny, Bradner Smith & Company, Chicago; D. G. Cobean, James M. Atell and J. C. Allen, J. W. Butler Paper Company, Chicago; Dewey Hoadley, Carpenter Paper Company, Omaha; Charles W. Dau, Carpenter Paper Company, Des Moines; W. N. Gillett, The Chicago Paper Company, Chicago; John B. Ughetti, Dwight Brothers Paper Company, Chicago; Roger B. Little, Dwight Brothers Paper Company, Milwaukee; C. R. Field, Field-Hamilton-Smith Paper Company, Omaha; Austin W. Dwight, W. J. Herrmann, Inc., Milwaukee; E. A. Damhorst, The Irwin Paper Company, Quincy; W. P. Beene, Kansas City Paper House, Kansas City; Harold Leahy, The LaSalle Paper Company, Chicago; Louis J. Marshall, Marshall Paper Company, Appleton; John E. Loughrin, K. E. Hellstrom, Messinger Paper Company, Chicago; G. A. Mueller, Harry Todd, Midland-Zellerbach Paper Company, Chicago; A. B. Hunter, Missouri-Interstate Paper Company, Kansas City; E. D. Buchanan, Moser Paper Company, Chicago; G. G. Custer, The W. F. Nackie Paper Company, Milwaukee; Arthur H. Chamberlain, The National Paper Trade Association, New York; Albert B. Tucker and E. J. Schmidt, Parker, Thomas and Tucker Paper Company, Chicago; Shannon Botts, Pratt Paper Company, Des Moines; E. H. Kniep, Shaughnessy-Kniep-Hawe Paper Company, St. Louis; S. M. Tobey, Tobey-Fine Papers, Inc., St. Louis; Ernest W. Julian, Western Newspaper Union, Omaha; Leo P. Golisch, J. T. Hillyer, The Whitaker Paper Company, Chicago; William White, James White Paper Company, Chicago; Curtis W. Boyce, The Wisconsin Paper and Paper Products Company, Milwaukee; Ralph F. Lane and P. C. Garrison, Zellerbach Paper Company, Kansas City; Victor Hecht, Zellerbach Paper Company, San Francisco.

Printing Industry Improves

The paper and printing industry gave a good account of itself during the thirty day period between July 15 and August 15 according to reports from the seventh federal reserve district issued this week. The 712 paper and printing firms in the five States showed 81,718 wage earners for the week of August 15 as compared to July 15, and earnings of $2,299,000. The improvement registered 1.2 per cent in wage earners and 1.3 per cent in earnings for the period as compared to a 2.2 per cent decline in wage earners and an 0.2 per cent increase only in earnings for the total manufacturing groups. Michigan, Wisconsin, Iowa, Indiana and Illinois are represented in the statement.

To Push Industrial Papers

The Bradner Smith & Company, Chicago paper jobbers, is intensifying market interest in "industrial papers" which were formerly classified as specialty papers. The volume of business to industrial concerns

and large retail buyers is being given special attention by Henry Vogler who for many years was promotional manager of the Crystal Tissue Company of this city.

Chicago Power Show Opens

The Chicago Exposition of Power and Mechanical Engineering, an event which is attracting the attention of paper manufacturers in that it parades the most recent developments in power and transmission machinery opens its doors next Monday, October 4. Housed in the International Amphitheatre, the show will feature displays of exhibitors from at least thirty states.

Waste Paper Market Losses

Chicago waste paper merchants are not overly optimistic about October according to waste material dealers who are expecting the next month to show a drop in waste paper prices. The condition of the market is definitely more depressed than last week with mills in certain cases having entirely stopped incoming shipments while many others are decidedly hesitant about accepting any more than a limited amount of tonnage. Paper stock is plentiful which, to local observers, forecasts a less bright situation for the tenth month of the year. Secondhand bags are said to be in the same category while an easing of prices is considered a foregone conclusion in the waste rags market because of lack of mill interest.

Rule 24 on Wood Pulp

Chicago is interested in the recent decision of the Interstate Commerce Commission upholding the request of carriers to cancel the application of Rule 24 on shipments of wood pulp from South Haven, Michigan, to certain points in Michigan and in Indiana. In vacating a suspension which was dated until October 4, the commission suggested that it did not appear impracticable for shippers to adapt their shipping practices to the forwarding of complete carloads.

New Bag Pleating Process

A patented process of pleating paper bags for specific merchandising uses is reported as proving highly successful for the Commonwealth Paper Converters Company of Chicago which is developing a market for the new product. The pleated paper bag is said to be useful in handling merchandise easily crushed such as hats, foodstuffs, etc., the pleat arrangement forming a welcome protection. J. Popper is president of the Chicago firm which now occupies well over 10,000 square feet of floor space at 633 Plymouth Court. David Moline is the vice-president. Both gentlemen have had considerable experience in the production of paper bags and allied products.

Issues "Close-Out" Paper List

The Swigart Paper Company recently released, "Close Out Number 13," listing all discontinued items in book papers, deckle-edge papers, covers, bonds and writings, blottings, envelopes and specialty items. Ream list prices are quoted along with close-out prices for ream and case lots.

Dwight Bros. New Price List

The new price list issued by the Dwight Bros. Paper Company shows an increase in the number of lines through the addition of ten pages. The list, of 143 pages, gives a thorough accounting of the Dwight line and includes new items such as Weston's Blackstone Bond and Gloss Ink Litho, the latter designed to eliminate the need for using the varnishing process. Horizon Green has also been added to the Blackstone Ledger colors.

Strathmore Moves Chicago Office

The Strathmore Paper Company has moved its Chicago offices from 300 West Adams street to 14 East Jackson street wherein more commodious and easily accessible quarters are available.

Indianapolis Demand Only Moderate

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 4, 1937.—A return of sultry weather during the last week appeared to be a deterrent factor in paper demand, which was only moderate in most lines. There also appears to be an element of uncertainty concerning business conditions that is preventing buyers from buying in quantities, the tendency being to buy only for immediate needs. In face of these conditions there is no effort on the part of manufacturers or jobbers to force price adjustments to higher levels, nor is there likely to be as long as business remains as it now is. In a few instances, jobbers report fine business, but most of them are none too optimistic.

Demand in the fine paper field was none too brisk, following the general business trend. Most retailers and printers have adequate stocks for current needs. Printers say general conditions are having an ill reaction on their business, but are predicting an increase with a return of cool weather. Books and covers remain stationary in price but there is a strong undertone and the general feeling is that advertising business for later in the fall will be good. Printers report more inquiries concerning prices than a year ago, but contract closings are slow.

A fair demand is seen for newsprint. Here again, weather conditions have had an unfavorable effect. The smaller out-state papers seem relatively better situated for business than the larger metropolitan papers.

Box factories report a hesitant demand, though in some instances there are exceptions. Building papers have started moving again, though fall demand is not up to normal volume as yet.

Paper stock is quiet. Most of the demand continues for better grades of both paper and rags, but prices are low and mill demand is slightly below normal.

Approves Paper Specifications

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 6, 1937—The Director of the Treasury Department has approved three federal specifications and amendments of interest to the paper industry.

These include general paper specifications which become effective on January 1, amendment to the white and colored bond paper specifications which become effective on January 15 and amendment to the mimeograph paper specifications which also become effective on January 15.

These changes may be obtained from the Superintendent of Documents, Government Printing Office at 5 cents each.

Philadelphia Expects Larger Paper Demand

Present Less Than Seasonal Lull Not Likely To Continue — Improved Demand Expected Before Late October — Specialty Papers Improve —Coarse Papers Aided By Orders From the Textile and Shoe Industries.

[FROM OUR REGULAR CORRESPONDENT]

Philadelphia, Pa., October 4, 1937—There are indications that the more than seasonal quiet which has prevailed in the paper trade here for the past month or six weeks, will not assume any larger proportions. It is more than likely that the upswing that was not expected before late October, is getting under way, having manifested itself in advance orders for holiday business. In one of the leading paper houses, it was stated that specialty goods incident to Christmas holidays are assuming proportions that have not been in evidence for the past three years. Quicker activity among some houses which has long been looked to for increased orders, incident to the launching of direct advertising campaigns in Philadelphia and its vicinity, is making itself felt. It is the consensus of opinion that resultant business will soon be enjoyed.

The coarse paper market appears to be running on an even keel. Much anxiety was felt a few weeks back, because of a threatened softening in price of kraft paper. However, unquestioned improvement is reported in the consumption of coarse paper, brought about by the increased business in the great textile manufacturing business in Philadelphia, and the shoe industry in this area,—both large consumers of coarse papers.

The most encouraging increase in business, however, has come, not so much from the Philadelphia trade, as from such Pennsylvania industrial centers as Scranton, Wilkes-Barre, Reading and others throughout the coal regions, improvement, approaching prosperity, is being experienced and business in these regions is excellent. Likewise, some fine paper requirements from the numerous cigar manufacturing plants throughout the State, show a very decided betterment.

In the paper stock branch of the business, which many regard as an index of the future, the week's experiences were most varied. It is admitted that as conditions stood at this date, there was a softening, almost a weakness, restricted, however, to mixed and commons.

Ruling prices, as this new week begins, were almost entirely inside and not the outside quotations, but the representative dealers hesitate to change them, being of opinion that overnight an entirely different picture may be drawn. So confident are some of the larger packers that the weakness of today may change tomorrow that they are not rushing off to the mills, as formerly.

Inside reports, which the packers have received, indicate all the mills are running actively, and—unlike many other industries—there have been no labor difficulties to embarrass or restrict their output.

Water Columns and Gauges

In Bulletin WG-1805, the Yarnall-Waring Company, of Chestnut Hill, Philadelphia, has just issued the complete details of the company's line of floatless, high-low, alarm water columns and water level gauges for boilers.

New England Paper Merchants Meet

Boston, Mass., October 4, 1937.—At a highly instructive luncheon meeting of the Wrapping Division of the New England Paper Merchants Association, attended by a representative group, held Friday at the Boston Chamber of Commerce, it was voted "that this group definitely favor the policy of gummed tape manufacturers' issuing their own suggested resale schedules, based on their individual costs." A constructive discussion of the possible value in this market of such action preceded the vote. A committee, composed of Mr. Hurd, Mr. Dowd and Streeter L. Bush, is going further into the matter.

The meeting was called by John C. Hurd, executive secretary of the New England Paper Merchants Association, with Harry J. Dowd presiding. Chester A. Spaulding, assistant secretary of the National Paper Trade Association in charge of the Wrapping Paper Division, and Ross Fife, managing director of the Gummed Industries Association, attended, as well as representatives of several gummed tape industries.

Copies of the Consumer Net Price Discount Table on Grocery Bags were distributed and also a new questionnaire on salesmen's compensation, which the Cost Finding Committee is investigating.

W. O. Ball Celebrates 84th Birthday

[FROM OUR REGULAR CORRESPONDENT]

Carthage, N. Y., October 4, 1937—W. O. Ball, former head of the Carthage Tissue Mills which he sold several years ago to the National Paper Products Company, celebrated his 84th birthday this week. Since retiring he has been extremely active and until a few months ago when he had a slight illness he was one of the city's most ardent golfers. He still drives his own car and until a few years ago indulged in ice skating every winter. He has the distinction of over half a century of membership in the Black River Valley Club and its predecessor, of which he was a charter member.

Glens Falls Paper Box Co. Formed

[FROM OUR REGULAR CORRESPONDENT]

Glens Falls, N. Y., October 4, 1937—Incorporation articles were issued this week to the newly organized Glens Falls Paper Box Company which plans to manufacture paper boxes and other paper products. The concern has a capitalization of 200 shares of stock with no stated par value. The promoters and principal stockholders are Bernard M. Radin, Bertram M. Aufsessor and M. D. Mabel. Mr. Radin, who will serve as president, has operated a paper box manufacturing concern at Albany for several years and plans to continue that business in connection with his local interests.

Financial News of Pulp and Paper Industry

Bondholders' Defensive Committee Formed, Headed by Hon. Sir Henry Drayton, K. C., of Toronto—Patten Paper Co., Ltd., Ordered To Remain Under Operation of Its Trustee—American Coating Issues Stock.

New York Stock Exchange

High, Low and Last for the Week Ending October 6, 1937

	High	Low	Last
A. P. W.	5	5	5
Armstrong Cork Co.	49	40¾	42⅞
Celotex Corp.	32½	30	30
Celotex Corp., pf.	64⅞	63½	64⅛
Certain-Teed Products Corp.	9	7⅝	7⅝
Certain-Teed Products Corp., pf.	36½	33½	33⅞
Champion Paper & Fibre Co.	47	41½	42⅛
Champion Paper & Fibre Co., pf.	107⅝	107½	107½
Congoleum-Nairn Co.	30	27	28
Container Corp. of Amer.	22	19	19⅛
Continental-Diamond Fibre Co.	12⅜	12	12⅛
Crown Zellerbach Co.	17	14⅝	15⅛
Crown Zellerbach Co., cum. pf.	86⅜	85¾	86
Flintkote Co.	20	18¼	18⅜
Robert Gair	7⅞	7	7¼
International Paper & Power	17¼	13¼	14⅛
International Paper & Power, pf.	64½	54	58½
Johns-Manville Corp.	105½	90½	93½
Johns-Manville, pf.	123	122	122
Kimberly-Clark Corp.	31	30	30
MacAndrews & Forbes	28¾	28¾	28¾
Masonite Corp.	37	33	33
Mead Corp.	21⅜	18¼	19⅜
Mead Corp., pf.	85	78	85
Paraffine Companies, Inc.	54½	43	45½
Paraffine Companies, Inc., pf.	95	95	95
Ruberoid Co.	23½	21	21½
Scott Paper Co.	39	38	38⅞
Sutherland Paper Co.	26	23¼	23¼
Union Bag & Paper Corp.	16⅝	14⅜	14⅞
United Paperboard Co.	7¼	6⅛	6⅜
U. S. Gypsum Co.	81	70	73
U. S. Gypsum Co., pf.	158½	158½	158½

New York Curb Exchange

High, Low and Last for the Week Ending October 6, 1937

	High	Low	Last
American Box Board Co.	14½	13	13
Brown Co., pf.	55	50	51
Great Northern Paper Co.	36	35	35
St. Regis Paper Co.	5⅜	4⅜	4⅜
Taggart Corp.	7¼	5½	6⅜

Holders Ask Abitibi Proxies

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 4, 1937.—At the request of holders of substantial amounts of bonds of Abitibi Power and Paper Company, a bondholders defensive committee has been formed, headed by Hon. Sir Henry Drayton, K. C., Toronto, former Minister of Finance for Canada. In a letter to shareholders of Abitibi bonds, the committee requests the support of bondholders in voting against the Ripley plan of reorganization. The letter states that whatever merit the Ripley plan may have had at the time it was conceived the spectacular improvement in Abitibi earnings in the past few months has so completely changed the company's position that there appears now no reason why the bondholders should make the sacrifices involved in the plan.

The chief criticism of the Ripley plan expressed in the letter is that "it entirely takes away from the bondholders their first mortgage position, giving them 38.03 per cent of their claim in second mortgage bonds, 53.24 per cent of their claim in unsecured income debentures non-cumulative for ten years, and 8.73 per cent in common stock. The earnings available for bond interest, depreciation and income tax, the letter points out, were $953,928 in 1934, $1.2 millions in 1935 and $2.2 millions in 1936, whereas during the past two months "the Abitibi Co. has been earning at the rate of over $6 millions per annum." In view of the fact that leading Canadian newsprint manufacturers have announced the price of newsprint for the first half of 1938 at $50 per ton, the letter states that it is "not unreasonable to expect Abitibi earnings next year to exceed $10,000,000, so that the company would be earning its interest charges more than three times. Based on present prospects, the issue of $14,000,000 prior lien bonds provided in the Ripley plan would therefore appear quite unnecessary, the letter states. In support of that contention the letter states that the net working capital of Abitibi at the end of August was $4.7 millions; that the earnings of the next four months, on the basis of July and August, will be $2 millions and that earnings estimated for 1938 amount to $10.6 millions. Out of this total of $17.3 millions would be deducted bond interest at the rate of nearly $3.3 millions per annum, and reorganization expenses, which would leave nearly $14 millions in working capital, less any expenditures on account of capital which may be made in the meantime. The letter adds: "The fact that the company can be reorganized today on a basis which would fairly recognize the bondholders' position is largely due to the equitable agreement entered into with the Ontario Government and the Hydro-Electric Power Commission of Ontario. This agreement further provides for the protection of the bondholders by a condition that no reorganization can be put into effect without the approval of the Government."

Patten Co. Operates Under Trustees

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., Oct. 4, 1937—Patten Paper Co., Ltd., Appleton, Wis., has been ordered by Federal Judge Evan A. Evans of Milwaukee, to remain under the operation of its trustee for sixty days, on condition the trustee pay the taxes by October 15. It was reported that the taxes would be paid.

The order was issued in proceedings which have been in progress for some time under Section 77-B of the federal bankruptcy reorganization law. The court authorized continuance of the petition of the debtor's trustee, Paul V. Cary of Appleton, in respect to uninterrupted operation of the business. The receivership has been in effect for about two years.

No paper is being manufactured at the mill at the present time. Only sufficient employees are retained to fill current orders from stock on hand.

American Coating Mills Issue Stock

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 4, 1937.—The American Coating Mills, Elkhart, Ind., has filed a stock registration statement showing the issuance of $1,010,000 of no par value common stock for plant additions and working capital.

Obituary

Nelson Curtis

BOSTON, Mass., October 4, 1937.—Nelson Curtis, aged 73, whose notable achievement in the paper industry was the manufacture of photographic paper, in which field he was considered a pioneer died October 1 at the Faulkner Hospital. He was a brother of former Mayor Edwine U. Curtis, of Boston.

Mr. Curtis, who resided at 57 Eliot street, Jamaica Plain, was a native of Boston, son of George Curtis, one of the foremost lumber merchants of the city. He attended the Boston public schools and Chauncey Hall School and later studied under private tutors. While a youth, he became associated with S. D. Warren & Co., paper manufacturers.

He served a three year apprenticeship with the firm, meanwhile studying chemistry and perfecting his knowledge of the business.

He was a trustee and director of the National Rockland Bank; vice-president of the Roxbury Institution for Savings; vice-president of Forsyth Dental School; vice-president of Forest Hills Cemetery; secretary of Eliot School and a trustee of Faulkner Hospital.

He attended St. John's Episcopal Church, Jamaica Plain. He held membership in the Algonquin, Country, Boston Yacht and Corinthian Yacht Clubs.

His wife, the former Genevieve Frances Young of Leominster, Mass., died several years ago. He leaves a son, Nelson Curtis, Jr., and a daughter, Mrs. William D. Wolverton of New York.

Funeral services were held at his late residence today at 2:30 P.M. The Rev. Thomas C. Campbell officiated and burial was in Forest Hills cemetery.

Honorary pallbearers included: Charles Gaston Smith, Robert B. Rugg, Stanley M. Bolster, Dr. Percy R. Howe, Anselm L. Bacon, Henry S. Adams, Harrie I. Brett, Ernest L. Rueter and Arthur B. Joslin.

George T. Standbridge

George T. Standbridge, for more than 12 years manager of the Boston office of the Champion Paper & Fibre Company, formerly the Champion Coated Paper Company, Hamilton, Ohio, died recently at his home in Arlington, Mass., after a brief illness.

Mr. Standbridge was a man of long experience in New England, and had been in the paper industry since 1907, when he became associated with the Domestic Paper Mills Company in New York City. His first work in Boston was with the Warren Manufacturing Company, now the Riegel Paper Corporation. For this concern, he was the New England representative, specializing in glassine. Later he was with the International Paper Company a number of years, in charge of paper specialties, and subsequently with the Champion company.

Mr. Standbridge was held in high regard and had a large number of friends in and out of the industry. Twenty-six members of the paper industry were present at the funeral, including a representative from the Champion Company and others from Boston and Providence. Rev. Gray M. Blandy, of Christ Church, Episcopal, Cambridge, Mass., officiated. The burial was in Laurel Hill Cemetery, Reading, Mass.

There are living his widow, Mrs. Alice B. Standbridge; three sons, George T., Jr., of Reading; Gilbert B., of Hingham, Mass., and Douglas M., of Arlington, and two daughters, Misses Miriam O. and Nancy B., of Arlington.

George T. Standbridge, Jr., who had been associated with his father for eight years, has returned to carry on the work of the office of the Champion company.

R. C. Pride

R. C. Pride, who was an official for many years of the former Tomahawk Pulp and Paper Company, Tomahawk, Wis., died September 20 at Chicago, Ill., after a brief illness. He was 57 years old, and had resided in Chicago for the last five years, following suspension of the company's operations. The body was conveyed to Appleton, Wis., for burial. Mr. Pride is survived by his widow; his mother, Mrs. C. B. Pride, and two brothers, Bert A. and Harry A., both of Appleton, who also were associated with him in the paper company.

Government Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 6, 1937—The Government Printing Office has received the following bids for 150,000 pounds of supercalendered book paper: Cauthorne Paper Company, 5.82 cents per pound; R. P. Andrews Paper Company, 5.82 cents; Paper Corporation of U. S., 5.82 cents; Stanford Paper Company, 5.82 cents; Whitaker Paper Company, 5.82 cents; Perkins-Goodwin Company, 5.82 cents; John F. Post, Inc., 5.82 cents; Reese & Reese, Inc., 5.82 cents; and Marquette Paper Company, 5.74 cents.

For 40,000 pounds of rope or super purified wood manila paper: Barton, Duer & Koch Paper Company, 7.75 cents; R. P. Andrews Paper Company, 8 cents and 18 cents; and Reese & Reese, Inc., 8 cents and 18 cents.

For 15,000 sheets of white cloth lined paper: Reese & Reese, Inc., $93.09 per M sheets; Whitaker Paper Company, $93.40; R. P. Andrews Paper Company, $95.47; Mathers-Lamm Paper Company, $95.00; Barton, Duer & Koch Paper Company, $94.50; George W. Millar & Co., $97.90; Walker, Goulard, Plehn Company, $98.89, less 2 per cent; Resolute Paper Products Corporation, $98.31 less 2 per cent, and Stanford Paper Company, $98.25 less 2 per cent.

For 24,000 pounds (75,000 sheets) of No. 2 kraft wrapping paper: Reese & Reese, Inc., 4.38 cents per pound; Mathers-Lamm Paper Company, 4.5 cents; Walker, Goulard, Plehn Company, 4.515 cents; Old Dominion Paper Company, 4.75 cents; R. P. Andrews Paper Company, 4.65 cents; Barton, Duer & Koch Paper Company, 4.42 cents; Stanford Paper Company, 4.64 cents; Whitaker Paper Company, 4.65 cents, and Graham Paper Company, 4.75 cents.

To Represent Mt. Vernon-Woodberry

Turner Halsey Company, selling agent for Mt. Vernon-Woodberry Mills, Inc., has recently appointed William Gray Company of Chicago, Ill., as its exclusive representatives in the states of Wisconsin, Minnesota and the upper peninsula of Michigan, on Mt. Vernon Extra and Richland Triplex asbestos or all cotton drier felts.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, of Pulp and Paper Mills

General Construction News

Spring Grove, Pa.—The P. H. Glatfelter Company, manufacturer of book, bond and other paper stocks, has approved plans for new addition to mill to be used for expansion in pulp division, comprising a large multi-story unit and several smaller structures, to be equipped for considerable increase in present capacity. Contract for erection has been let to the H. J. Williams Company, Sumner street, York, Pa., and work will be placed under way at once. Cost over $450,000, with equipment.

Mobile, Ala.—The National Gypsum Company, 190 Delaware avenue, Buffalo, N. Y., manufacturer of wall board and kindred products, has awarded general contract to the H. K. Ferguson Company, Hanna Building, Cleveland, Ohio, for proposed new mill at Mobile, where company recently acquired a large tract of land on Mobile Bay near the mouth of the Mobile River, as previously noted in these columns. The site was formerly occupied by the General Cable Company and includes a number of existing buildings, which will be modernized and improved, with erection of additional structures, totaling about 22,000 square feet of floor space. Plant will be used for the production of insulating fiber board from ground wood pulp, and will be equipped for large capacity. It is estimated to cost over $1,000,000, the larger part of the fund to be used for equipment purchases. Contracting company noted will be in charge of design of new buildings, engineering work and different purchases of materials. It is said that plant will be ready for operation early next year. M. H. Baker is president. Jere Massey has been appointed works manager at the new mill.

Chicago, Ill.—The Isgo Wall Paper Corporation, 2115 West 21st street, has asked bids on general contract for two-story and basement addition to storage and distributing plant, and will proceed with erection soon. It is estimated to cost close to $45,000, including equipment. Dubin & Dubin, 127 North Dearborn street, are architects.

Menasha, Wis.—The George A. Whiting Paper Company, manufacturer of writing papers and other paper stocks, has awarded miscellaneous contracts for new boiler plant at mill, recently referred to in these columns, including structural steel framing to the Vulcan Manufacturing Company, Fond du Lac, Wis., and roofing to the J. F. Ege Roofing Company, Oshkosh, Wis. Work on superstructure has been placed under way by the Fluor Brothers Construction Company, 48 Otter street, Oshkosh, general contractor. It will be about 25 x 50 feet, estimated to cost close to $45,000, with equipment. Orbison & Orbison, 215 East Washington street, Appleton, Wis., are consulting engineers.

St. Paul, Minn.—The Minnesota Mining and Manufacturing Company, 791 Forest street, manufacturer of sand paper and other abrasive paper stocks, etc., has approved plans for new addition to local plant, to be two story and basement, with subbasement, 115 x 280 feet, estimated to cost close to $350,000, including equipment. Award for erection has been let to W. M. Murphy & Son, New York Building, St. Paul, and work will be placed under way at early date. Toltz, King & Day, Pioneer Building, are architects and engineers.

Fernandina, Fla.—The Fernandina Pulp and Paper Company, Fernandina, recently organized, and now building a new pulp mill on local site, has concluded negotiations for acquisition of a tract of about 25,000 acres of timber land in the Southern part of Charlton County, Ga., in vicinity of St. George, for pulpwood supply for mill. Facilities will be provided for operations on a portion of the tract, including saw mills and other structures. Company has active work under way on pulp mill on the Amelia River in the harbor district of Fernandina, to be equipped for a capacity of about 180 tons of bleached sulphite pulp per day. The Rust Engineering Company, Clark Building, Pittsburgh, Pa., is general contractor for the erection of the plant, which is estimated to cost about $6,000,000. C. B. Morgan is president of company.

Elkhart, Ind.—The American Coating Mills, Inc., Division street, manufacturer of coated folding board specialties, has arranged for stock issue of 70,000 shares of no-par value common stock, to total about $1,000,000, a portion of the proceeds to be used for additions to mill, machinery and equipment installations. Company recently has had work under way on a one-story and basement mill extension, as previously reported in these columns, for which general contract was awarded to the Sollitt Construction Company, 109 North Dearborn street, Chicago, Ill. This unit was reported to cost about $100,000, including equipment.

Bellingham, Wash.—The Puget Sound Pulp and Timber Company, Army street, manufacturer of sulphite pulp, has awarded contract to C. C. Moore & Co., Smith Tower Building, Seattle, Wash., for equipment for new steam power house at mill, to be used in conjunction with large addition to plant, for which general contract has been let to H. S. Wright & Co., 2210 Second avenue, Seattle, as lately noted in these columns. The steam station will be equipped for a generating capacity of 250,000 pounds of steam per hour, and is estimated to cost close to $200,000. The entire expansion program will represent an in-

vestment of $2,600,000 for buildings and machinery, and will increase mill capacity by 40,000 tons of pulp per annum. The City Council, Bellingham, has agreed to construct a new pipe line for main water supply for the mill, estimated to cost about $60,000, and work on this project will be placed under way soon.

Enka, N. C.—The American Enka Corporation, Enka, near Asheville, manufacturer of cellulose rayon products, has awarded general contract to the Daniel Construction Company, Inc., Anderson, S. C., for two additions to mill, each one-story, 82 x 200 feet, and 50 x 165 feet, respectively, to be used for a vacuum wash building, and storage and distribution, in order noted. New units are reported to cost close to $100,000, with equipment. Work on superstructure will be placed under way at once and is scheduled for completion by the close of the year.

Clinton, Iowa—E. I. du Pont de Nemours & Co., Inc., Cellophane Division, du Pont Building, Wilmington, Del., has completed preliminary surveys for proposed new mill at Clinton, where large tract of land has been acquired, as recently noted in these columns, and will prepare detailed plans for initial buildings at early date. Plant will comprise a large group of one and multi-story units, with power house, pumping station and other mechanical structures, and will be given over to the production of cellophane products, including cellulose films. It is reported to cost in excess of $5,000,000. Construction is scheduled to begin early in 1938 and the plant will require close to 12 months for completion, now scheduled for late spring in 1939. It will have facilities for the employment of about 500 persons. This will be the seventh mill of the company, located in different parts of the country. John E. Hatt is manager of the division. Company engineering department will be in charge of project.

Shelton, Wash.—A new company to be known as Rayonier, Inc., is being organized by officials of the Ranier Pulp and Paper Company, Shelton, to take over and consolidate that company, Grays Harbor Pulp and Paper Company, Hoquiam, Wash., and Olympic Forest Products Company. The new company will have a capital of 626,507 shares of preferred stock, and 963,871 shares of common, all outstanding. E. M. Mills, now head of all three companies noted, will be president of the new organization.

Cornwall, Ont.—The Howard Smith Paper Mills, Ltd., 497 McGill street, Montreal, Que., manufacturer of bond and writing paper stocks, box board and kindred products, is having plans drawn by J. C. Day, 630 Dorchester street West, Montreal, consulting engineer, for proposed new addition to mill at Cornwall, lately referred to in these columns, to consist of two one-story units for expansion in digester department and for blow pit building, respectively. New structures are reported to cost close to $200,000, including equipment. Erection is scheduled to begin soon.

La Tuque, Que.—The Brown Corporation, La Tuque, operating a local sulphate pulp mill, a subsidiary of Brown Company with mill at Berlin, N. H., and the St. Maurice Power Corporation have plans under way for a joint hydroelectric power project on the upper St. Maurice River, vicinity of La Tuque, a considerable part of the output to be used at the pulp mill noted. It is reported that the Brown Corporation plans expansion at its local mill in the future and that additional power supply will be required for this purpose. The project will consist of a large power dam, hydroelectric generating station of 162,000 horsepower initial capacity, power substation and switching station, and transmission line to mill site. Equipment installation will comprise four vertical hydroelectric generating units, each with rating of 40,500 horsepower, and facilities for two additional units of like capacity at later date. Entire project will cost close to $15,000,000. Surplus power from the plant will be taken by the Shawinigan Water & Power Company.

New Companies

New York (Queens Borough) N. Y.—The Victor Wallboard Company, Long Island City, has been incorporated with capital of 100 shares of stock, to deal in wall board products. New company is represented by Kelly, Hewitt & Harte, 41 East Forty-second street, New York, N. Y., attorneys.

Summit, N. J.—The Ideal Paper and Supply Company, Summit, has been chartered with capital of 250 shares of stock, no par value, to deal in paper products of various kinds. William A. Gibbins, 32 Canoe Brook Parkway, Summit, is one of the incorporators and representative.

Chicago, Ill.—The A. B. Decalcomania Corporation, 176 West Adams street, has been chartered with capital of $10,000, to manufacture decalcomania paper transfers and allied specialties. The incorporators include E. R. McClanahan, R. M. Olson and M. H. Smith. Company is represented by Mack, Wikoff & Ross, 77 West Washington street, attorneys.

New York, N. Y.—The Falco Paper Stock Company, Inc., has been incorporated with capital of $50,000, to deal in waste paper stocks. Company is represented by K. Levenstein, 887 Longwood avenue, Bronx, New York, attorney.

Somerset, Mass.—The United States Fiber Company, Inc., has been organized with capital of 100 shares of common stock, no par value, to manufacture and deal in fiber products. James W. Rourke is president; and Adelle Kelsey, treasurer.

Has Service Record With Racquette River

[FROM OUR REGULAR CORRESPONDENT]

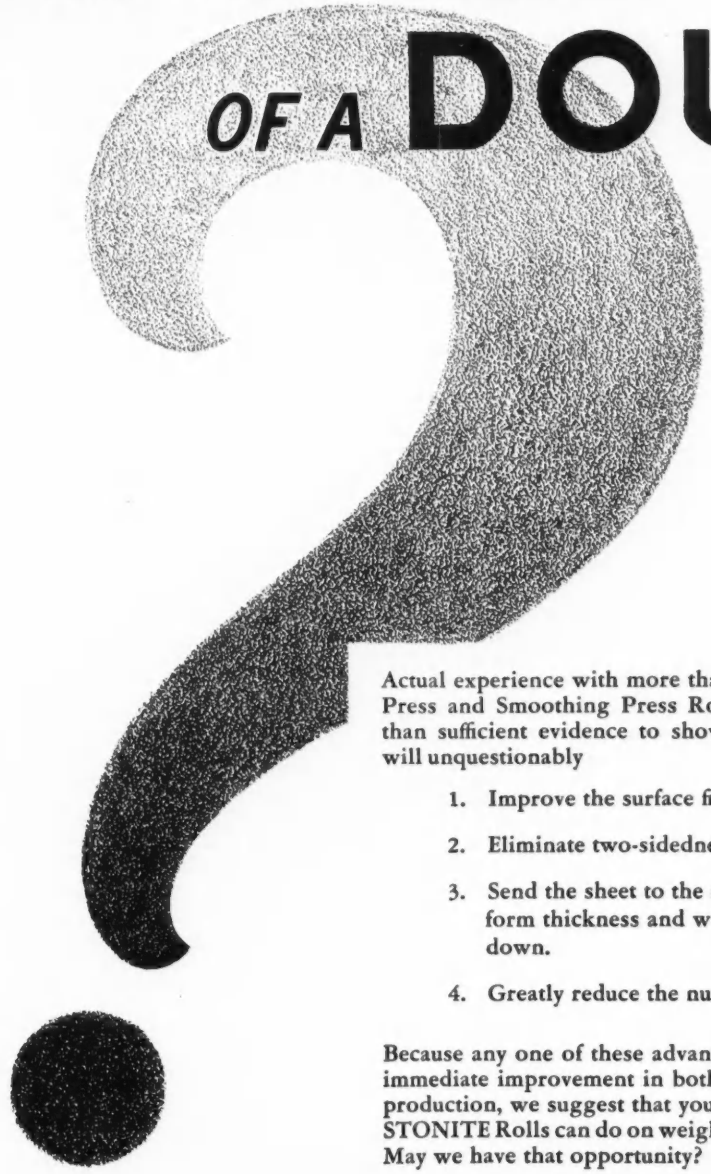
POTSDAM, N. Y., September 27, 1937—Samuel Clements, who holds the distinction of having the longest service record of any employee of the Racquette River Paper Company, celebrated his 85th birthday at his home here recently. He entered the employ of the concern on April 9, 1894, and most of his duties were confined to the digester room and the sulphite division. Later he was shifted to size making for about two years and then in 1918 he was assigned to the delivery of sizing to the beater room. His present duties, however, are confined to the operation of the big elevator at the plant. In discussing his long term of service, Mr. Clements declared that for 17 years he worked eleven to thirteen hours a day but now, however, he is only toiling eight hours daily. He was born near Kingston in 1852.

St. Regis Gets Tax Refund

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 6, 1937—The Bureau of Internal Revenue has announced that a refund of $21,623.82 for over assessment of income tax and interest has been allowed to the St. Regis Paper Company, of New York for the year 1924.

BEYOND THE SHADOW OF A DOUBT



Actual experience with more than 1000 STONITE Top Press and Smoothing Press Rolls has produced more than sufficient evidence to show that STONITE Rolls will unquestionably

1. Improve the surface finish
2. Eliminate two-sidedness
3. Send the sheet to the calenders leveled to uniform thickness and with irregularities broken down.
4. Greatly reduce the number of breaks.

Because any one of these advantages would result in an immediate improvement in both quantity and quality of production, we suggest that you let us tell you just what STONITE Rolls can do on weights and grades like yours. May we have that opportunity?

Meet us in Savannah for Tappi Convention October 18-19-20

STONITE* Rolls

TOP PRESS AND SMOOTHING

*(*Ebonite and Granulated Stone Composite U. S. Patent 1,787,890 Re. 18,111*)

STOWE-WOODWARD, INC. NEWTON UPPER FALLS • MASS.

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Makers of WHITE STAR *Rubber Covered Rolls,* TANNITE *Couch Rolls*
STONITE *Top Press and Smoothing Rolls—All by the* COREWELD *Process*

A Letter to the Ladies

The following letter which explains itself is from the Women's Entertainment Committee for the annual Fall Meeting of the Technical Association of the Pulp and Paper Industry to be held at the De Soto Hotel, Savannah, Ga., October 18-20, 1937:

Savannah, Ga., October 4, 1937

GIRLS:

What's the matter with "you all"? The men are way ahead of us for the Crinoline Ball; fifty per cent of them have said they want to rent costumes and only fifteen per cent of *you*. It's such a good chance to really look lovely in the gowns of your grandmother's day and to show off the waist line — surely your John can't excel you there. And oh! say, there are to be grand prizes for the best costumes. If you want further information regarding costumes, please write Miss Rita Wood, P. O. Box 703, and she will be glad to help you. Your local library has reference books, which will give you lots of ideas. If you haven't the time, let her know your size so we can have one ready for you to rent.

Also, don't forget your bathing suit, the Atlantic Ocean should be warm compared to the cold water of the lakes and streams this summer.

Everything is all set for our program and much variety, so you will find plenty of things to do that you will enjoy but do insist that your John return the questionnaire card so we will know just when you are coming and what you want to do.

If you are driving, there are many picturesque places on the way. It's a grand time of the year to visit Washington and Mt. Vernon.—and have you seen Williamsburg, Virginia? It's well worth going out of your way to stop there a few hours—and the caves, you must see one of them. But don't tarry, for it's best to be in Savannah ahead of schedule.

With the children safely back in school you can have a real honeymoon trip, plus the anticipation of meeting all your old friends. Of course, this is not New York but just a delightfully serene old southern town where everyone will try to help you have a good time, TAPPI joining in, so you will not be disappointed. We are certainly looking forward to seeing you—

Yours,
Edna R. Moon, Chairman.

Hancock Flow Control Valves

A new bulletin issued by the Hancock Valve Division of Manning, Maxwell & Moore, Inc., of Bridgeport, Conn., furnishes full particulars of the redesigned line of the company's combination valve and flow control instruments.

Kimberly-Clark Enlarge Office

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., Oct. 4, 1937—Construction is to be started immediately on a three-story addition to the offices of the Kimberly-Clark Corporation, Neenah, Wis., according to announcement made by S. F. Shattuck, vice-president. The contract has been awarded to Fluor Brothers Construction Company, Oshkosh, Wis.

The addition will be a wing to the south of the present office building, connected to it by an extension of the corridor. It will increase the size of the office unit approximately one-third.

Fireproof, sound-proof construction will be used, and the offices will be modernly equipped throughout when completed. They will house the treasury department, legal department, land office, directors' room, and additions to the engineering department.

This is the second big expansion of office facilities within approximately a year. Another three-story wing was erected which has been in use for a number of months.

Kimberly-Clark Corporation also is completing construction of a wall 265 feet long and 8 feet, 9 inches high, on the east bank of the Fox River at Neenah just below its water power dam. It replaces one that the river was undermining. The new one has a four foot footing below the wall proper. Its purpose is to protect the land adjacent to Theda Clark hospital from being washed away. Fluor Brothers Construction Company also has this contract.

Ohio Section to Meet

The next meeting of the Ohio Section of the Technical Association of the Pulp and Paper Industry will be held at the Manchester Hotel, Middletown, Ohio, Nov. 6, 1937. The motion picture "Heat and Its Control," by Johns-Manville, Inc., will be shown. A round table discussion on "Paper Making Colors and Color Problems" will be conducted by Ivar Ekholm of the National Airline and Chemical Company.

Future meetings will be held on December 11 and January 8.

John C. Hurd Returns From Cruise

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 4, 1937.—John C. Hurd, executive secretary of the New England Paper Merchants Association, has just returned from his annual two weeks' cruise on the USS Arkansas as executive officer of the Tenth Fleet Division, Fall River, Mass. He was gratified that his division made the high score in target practice, with 100 per cent hits, and received the highest mark for general efficiency.

Pulpwood Receipts at Ashland

APPLETON, Wis., October 4, 1937—Pulp wood operations at Ashland, Wis. reached a new all-time record this season. A total of 96,000 cords was received by the Marathon Paper Mills Company, and the Newaygo Tug Line, Inc., operating for the Consolidated Water Power and Paper Company. The previous record was 85,000 cords, set in 1929.

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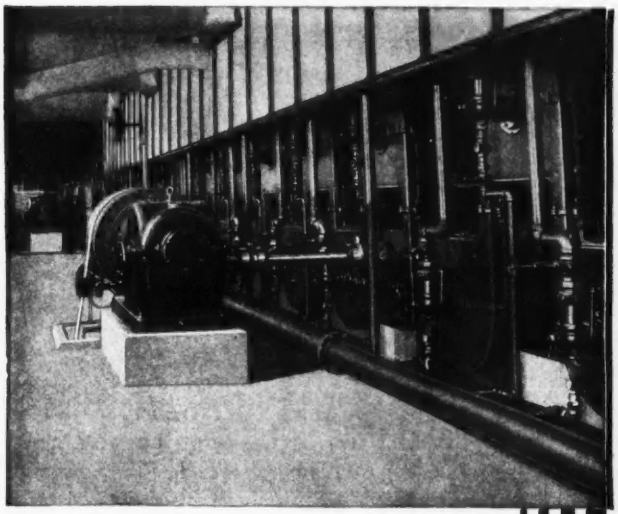

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COMING EVENTS IN THE PAPER INDUSTRY

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY—Fall Convention, DeSoto Hotel, Savannah, Ga., Oct. 18-20, 1937.

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—Second Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

FOREIGN PULP AND PAPER TRADE OF U. S. CONTINUES AT HIGH LEVEL

Exports of paper and paper products from the United States during July reached an aggregate value of $2,639,486, according to figures just released by the Forest Products Division in the Bureau of Foreign and Domestic Commerce. This amount represents a decrease of 6 per cent compared with the June total, but is 31 per cent higher than the amount recorded for July, 1936.

While a heavier volume of shipments in a majority of the items on the paper schedule contributed to the July increase compared with a year ago, a large part of this year's gain was due to the heavy increases which took place in shipments of such staple lines as newsprint, book papers, writing papers, paperboards, sheathing papers, bags, and boxes. Exports of newsprint again passed the 2,600 ton mark, exceeding the July, 1936 shipments by nearly 300 per cent. This was by far the largest increase in any one item. Exports of book paper were nearly 100 per cent and exports of writing paper 37 per cent higher than a year ago. Exports of miscellaneous wrapping papers dropped 20 per cent under the July, 1936 figure but this loss was offset by increases in shipments of kraft wrappings and paper bags.

In the board group, box board shipments show a rise of 31 per cent and other paper boards 70 per cent. Sheathing and building papers were another item to show a rise of close to 100 per cent in exports as compared with a year ago. Exports of fiber insulating boards, however, were only 5 per cent and wall boards only 15 per cent higher than during the corresponding month last year. Of the remaining items only surface-coated papers, greaseproof and waterproof papers, and paper towels and napkins failed to reach or exceed last year's level, and only the first-mentioned article shows an appreciable decrease. Exports of greaseproof and waterproof papers were only 3 per cent and exports of paper towels and napkins only 7 per cent under those recorded for July, 1936. Exports of surface-coated papers, which dropped 3 per cent under the June figure were nearly 25 per cent under shipments for July, 1936.

Exports of bleached sulphite pulp, which make up a large part of our shipments of paper base stocks, reached a total of 24,012 tons during July, an increase of 26 per cent over the preceding month and of 80 per cent over the corresponding month last year. Exports of unbleached sulphite on the other hand, dropped off 10 per cent, but were 10 per cent higher than during July, 1936. Next to sulphite the most important item is waste of various sorts exclusive of rags. Shipments under this classification, which have been running high registered a further increase during July when they totaled 11,032 tons as against 10,098 tons in June and 2,044 tons in July, 1936. Total exports of paper base stocks during July were valued at $2,831,845, an increase of 28 per cent over June and of 114 per cent over July, 1936.

Imports of wood pulp during July were generally lower than in June, but surpassed receipts for the same month in 1936 by 5 per cent in volume and 25 per cent in value. The rise in value was partly due to the larger proportion of bleached sulphite in this year's receipts and partly to the general advance in wood pulp prices. Next to imports of unbleached sulphite, which were 30 per cent higher than in July, 1936, proportionately the largest advance occurred in imports of bleached mechanical pulp, which increased 23 per cent.

Imports of unbleached mechanical, unbleached sulphite, and sulphate pulps show increases ranging from 3 to 5 per cent over receipts for the corresponding month last year. Imports of rags for paper stock were 22 per cent higher and imports of other waste 14 per cent higher in volume than a year ago. Imports of pulpwood were 7 per cent higher than in June and 16 per cent higher than in July, 1936. Total imports of paper base stocks during July were valued at $11,917,463 as against $13,060,113 in June, and $9,555,299 in July, 1936. The July, 1937 receipts comprised 226,697 tons of wood pulp valued at $9,315,801, 219,157 cords of pulpwood valued at

$1,958,479, and 15,424 tons of rags and other waste valued at $643,183.

Imports of newsprint continue to show an upward trend, July receipts, which totaled 302,982 tons, exceeding June receipts by 5 per cent and those of the corresponding month in 1936 by 47 per cent. Imports of a number of other items including other printing papers, greaseproof and waterproof papers, light-weight tissues, and kraft wrapping were higher than receipts for the corresponding month last year. although most of these items show a decrease compared with June.

Imports of cigarette papers, which usually rank next to newsprint in value, were 20 per cent higher than in June but were still slightly under July, 1936 receipts. The same increase took place in imports of pulpboards in rolls, which also show a slight rise over last year's imports. Imports of paper and paper products reached a total value of $12,489,330, of which $11,246,265 represented newsprint, and $1,243,065 other papers and boards. Newsprint receipts show an increase in value of 4 per cent over June and 55 per cent over July, 1936. Imports of other classes dropped 6 per cent under the June figure and were less than 4 per cent above the July, 1936 total.

Making Insulation from Corn Stalks

Making cornstalks and other agricultural by-products into insulating board has been studied for some time at Iowa State College and has resulted in the commercial manufacture of the board. Results of some of the recent research studies have been compiled in Iowa Engineering Experiment Station Bulletin No. 136 by O. R. Sweeney and L. K. Arnold entitled "Studies on Insulating Board Production." This bulletin describes the new forming machine developed for this work, the newer methods of pulp preparation and studies of drying, sizing, air infiltration of the board and dusting of the board.

The Station has also published Bulletin No. 137, entitled "Cornstalk Acoustical Board," by L. K. Arnold, H. J. Plagge, and D. E. Anderson. This publication describes apparatus devised for determining the coefficients of sound absorption of acoustical boards.

Studies of the effect of composition of the pulp used and the surface treatment given the boards tested are discussed.

Copies of the two bulletins are available without charge from the Iowa Engineering Experiment Station, Iowa State College, Ames, Iowa.

An Invitation from Bureau of Standards

Those attending the Fall meeting of TAPPI are cordially invited to visit the National Bureau of Standards when passing through Washington. Visitors will have an opportunity of becoming familiar with the current work of the Paper Section or any other part of the Bureau in which they may be interested.

Production Ratio Report

These statistics are based upon paper production reports to the American Paper and Pulp Association:

COMPARATIVE MONTHLY SUMMARIES

Months	1937	1936	1935	1934
January	90.3%(c)	76.1%	65.8%	.....
February	90.1%(c)	77.9%	70.0%	.....
March	90.3%(c)	76.0%	70.5%	.....
April	92.1%(c)	82.3%	70.0%	.....
May	90.6%(c)	81.6%	69.4%	.....
June	87.3%(c)	80.7%	72.3%	.....
July	81.8%(c)	77.3%	64.9%	.....
August	82.9%(c)	81.5%	70.9%	.....
September	.....	80.5%	71.9%	58.2%
October	.....	87.6%	75.6%	64.7%
November	.....	88.0%	75.3%	61.7%
December	.....	85.9%	71.2%	59.6%
Year Average	.....	81.3%	70.5%	.....
Year to Date First 38 weeks	87.1%	79.1%	69.3%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1937		CORRESPONDING WEEKS, 1936	
*September 4	79.7%		
*September 11	(h)67.2%	September 5	81.0%
*September 18	83.6%	September 12	(h)71.2%
*September 25	79.3%	September 19	85.7%
		September 26	84.3%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting, Current Weeks			
Ratio Limits	Sept. 4, 1937	Sept. 11, 1937	Sept. 18, 1937	Sept. 25, 1937
0% to 50%	71	108	73	65
51% to 100%	244	207	214	161
Total Mills Reporting	315	315	287	226

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported by individual companies.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours," were as follows:

Mos.	1937	1936	1935	1934	Mos.	1937	1936	1935	1934
Jan.	80%(e)	61%	61%	....	July	67%(e)	69%	59%	....
Feb.	86%(e)	67%	67%	....	Aug.	74%(e)	75%	65%	....
Mar.	87%(e)	68%	67%	....	Sept.	....	76%	69%	62%
Apr.	89%(e)	70%	61%	....	Oct.	....	82%	76%	63%
May	86%(e)	68%	61%	....	Nov.	....	79%	70%	56%
June	75%(e)	68%	65%	....	Dec.	....	74%	60%	52%

Week end. Sept. 4, 1937—73%
Week end. Sept. 11, 1937—59%(h)
Week end. Sept. 18, 1937—73%
Week end. Sept. 25, 1937—70%

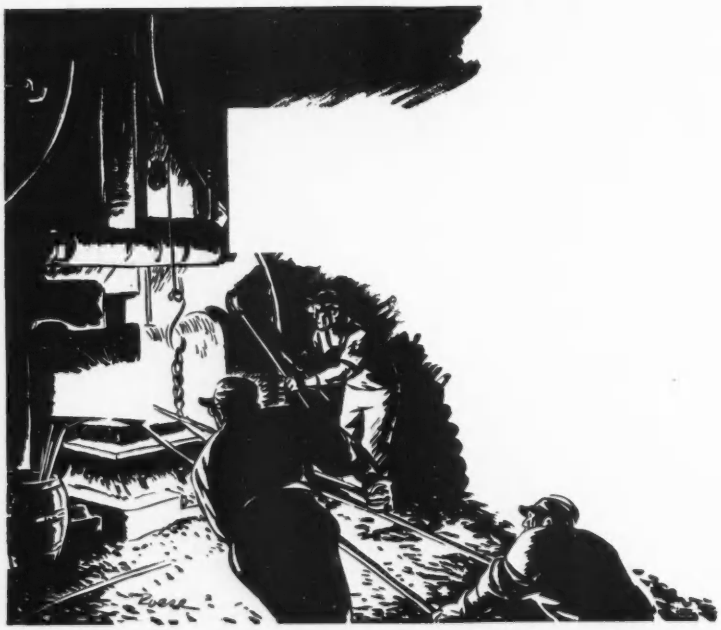
(e) Basic figures revised to include new members of the National Paperboard Assn.
(h) Holiday week; percentages based on six days' operation.

I. P. Co. and Union Meet at Glens Falls

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., October 4, 1937—Officials of the International Paper Company and representatives of the local unions of the International Brotherhood of Papermakers and International Brotherhood of Pulp, Sulphite and Paper Mill Workers held a conference last week in this city when plans for a further meeting to be held in about a month were made. It is understood that labor affairs pertaining principally to wage and working agreements were discussed. Among the officials of the company at the conference were Stuart Kaye, of the New York office, J. W. Youngchild, manager of the book division, and W. D. Maxim, superintendent of the ground wood specialties division. Matthew J. Burns and Frank P. Barry, president and vice-president of the International Brotherhood of Papermakers, and John P. Burke and Maurice La Belle, officers of the Pulp, Sulphite and Paper Mill Workers, also participated in the conference.

• HAMMERING OUT NEW MARKETS



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Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterso n and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Power

Economic Energy Law and Its Effect Upon the Pulp and Paper Industry. Niemann. Papier-Fabr. 34, No. 48:437-439; no. 49:453-455 (Nov. 29, Dec. 6, 1936).—The purpose of the law is to provide Germany with a cheap and reliable energy supply by balancing heat and power requirements in the most efficient manner, and involves the problem: purchased vs. generated power. The article discusses the factors which determine the advantage of either system.—C.J.W.

Heat and Power Engineering During 1936. Konrad Weiss. Zellstoff u. Papier 16, no. 12:593-595 (Dec., 1936); 17, no. 1:17-21 (Jan., 1937).—A review is presented of developments in German steam power and electrical engineering.—C.J.W.

Modernization Program of the Boiler Plant of the A. S. Bohnsdalen Mills, Ltd. Leif J. Hanssen. Papir-J. 24, no. 23:267-272 (Dec. 15, 1936).—An illustrated description of the reconstruction program is given—C.J.W.

Union Co.'s Plant At Skotfos. Papir-J. 24, No. 23: 273-277 (Dec. 5, 1936).—An illustrated description of Norway's largest newsprint mill.—C.J.W.

Controlled Back Wash Necessary to Continuous Automatic Filtering. R. P. Adams. Paper Mill 59, No. 39; 15-16 (Sept. 26, 1936).—A description of the operation and merits of the Adams AWF filter.—A.P.-C.

Boiler Water Treatment in the Pacific Northwest. Kenneth A. Kobe. Pacific Pulp Paper Ind. 10, No. 8: 11-12 (Aug., 1936).—A brief outline of the characteristics of the water available for paper mills in the Pacific Northwest and of the treatment required to render it suitable for boiler feed purposes.—A.P.-C.

Factory Lighting. R. O. Ackerley. Paper-Maker 91: TS 77-80, 85-86 (May 1, June 1, 1936); World's Paper Trade Rev. 106: 892, 894, 934, 936, 973-978, 1060, 1062, 1100, 1102 (Sept. 18, 25, Oct. 2, 1936).—A discussion of the fundamentals of factory lighting in general and of some of the special problems in paper mill lighting.—A.P.-C.

Bearings and Their Lubrication. N. J. Nicholson. Paper-Maker 92: TS 141-144, 153 (Sept. 1, Oct. 1, 1936). —A discussion of problems in connection with the lubrication of steam cylinders and crank chambers and with circulating systems for paper machine and steam turbines.—A.P.-C.

Lubrication of Paper Mill Machinery. B. F. Hunter. Paper Mill 59, No. 37: 16-18 (Sept. 12, 1936).—A brief general discussion.—A.P.-C.

Instrumentation in Pulp and Paper Mills. H. T. Peterson. Pacific Pulp Paper Ind. 10, No. 9: 12-14 (Sept., 1936).—A brief survey of the fundamentals underlying various types of instruments and possible inherent advantages or disadvantages of certain types as applied in pulp and paper making.—A.P.-C.

Large "Y" and Reducer Section for Water Supply Line Fabricated By New Method. F. G. Sherbondy. Paper Trade J. 103, No. 27: 17-18 (Dec. 31, 1936).—A description of an arc-welded, steel "Y" and reducer section, 20 ft. 4.5 in. long, 54 and 60 in. in diameter and weighing 32,870 lbs., recently fabricated by The Biggs Boiler Works Co., for an industrial plant at Dearborn.—A.P.-C.

Refractories: Their Composition, Properties and Applications. D. Dixon. Paper-Maker 92: TS154-160 (Oct. 1, 1936).—A description of the various refractory materials used in industrial furnaces, the properties required of refractories to enable them to withstand adequately a variety of furnace conditions, suitable applications for various refractories, and causes of wastage, particularly in boiler furnaces, kilns and similar constructions subjected to high temperatures, temperature changes and flux attack.—A.P.-C.

A New Method of Waste-Heat Recovery from Intermittent Sources Such As Gases and Vapors in the Chemical Industry. C. Rosenblad. Paper Trade J. 104, No. 3: 38-46 (Jan. 21, 1937).—A system for classifying various sources of heat according to their value from the point of view of recovery is suggested and explained. Examples are given of how this method of classification is applied to intermittent sources of heat, from which conclusions are drawn as to the conditions under which a change-over to the storage heat recovery system is justified. The system is absolutely dependent on a highly efficient liquor to liquor heat exchanger, which led to the development of an effective spiral heat exchanger. Application of the system to sulphate and sulphite mills and to the recovery of heat from flue gases is described. —A.P.-C.

Report of Fiber Identification Symposium*

This report summarizes the work which was done by members of TAPPI at the Fiber Symposium held at the Institute of Paper Chemistry, Appleton, Wis., June 9 to 17, 1936.

Announcement of the Fiber Symposium

April 7, 1936.

The Technical Association is an associate member of the Institute of Paper Chemistry.

As a specific service to the Association the Institute is conducting *a symposium on fiber identification* to be held in Appleton, Wis., from June 9 to 20, 1936.

This notice is being sent you to give you an opportunity to make application for appointment by our Executive Committee as a delegate to the symposium.

Needless to say, the nature of the program as indicated by its title *should interest only those* who can obtain the most benefit from the symposium and who will be able to devote the necessary time and effort to get the most from it.

Please let the Secretary of TAPPI know, (before April 18) if you wish to attend the symposium and to whom you recommend that invitations be sent, if any vacancies exist after April 18th, in the list of delegates.

R. G. MACDONALD, Secretary.

Notes on the Symposium

The following notes were made by members of TAPPI who attended the symposium. Particular credit is due to D. A. Cameron, Alliance Paper Mills, Ltd., Morritton, Ont., on the basis of whose notes this report is prepared.

PURPOSE:

(As outlined by Dr. Lewis at the Institute of Paper Chemistry June 10, 1936.)

By the use of twelve (later reduced to ten) samples to be examined and reported upon by all present (approximately twenty) according to their own methods it was hoped that sufficient information would be gained which would form the basis for a discussion that would establish standard methods of fibre identification.

MR. CALKIN (Chairman of TAPPI Microscopic Subcommittee): Mr. Graff's stains (see Paper Trade Journal of April 18th, 1935, Pages 203-208 (Technical Section), also Proceeding of the Technical Association for 1935, Pages 293 to 298) were considered difficult to manipulate. A check up showed that no one present had been able to work them to anywhere near the extent described by Mr. Graff. The main purpose of this meeting appeared to be to find out how to work the Graff stain. Graff's own students at the Institute did not appear to have had any difficulty and it was hoped that under Mr. Graff's personal instruction it would be possible for the group to become familiar with their use for the identification of the following fibers:

Softwood Sulphate:	Bleached, unbleached, chemically refined bleached and chenically refined unbleached.
Softwood Sulphite:	Bleached, unbleached, chemically refined bleached and chemically refined unbleached.
Hardwood Soda:	Bleached.
Hardwood Sulphate:	Bleached and unbleached.
Hardwood Sulphite:	Bleached and chemically refined bleached.

The limit of usefulness of the present TAPPI T 401 method appeared to be

Unbleached softwood sulphite and unbleached softwood sulphate.

Bleached hardwood and unbleached hardwood.

Bleached softwood (Soda from poplar).

Mr. Graff pointed out that there were two groups of fiber analysts.

1. In one organization only.
2. Commercial analysts.
   among these represented were—Arthur D. Little, Inc.; Skinner and Sherman, Inc.
   He also included in this group—U. S. Printing Office and the Institute of Paper Chemistry.
   None of these (except the Institute men) reported bleached kraft and bleached sulphite other than as chemical coniferous. The representatives present agreed that this was correct.

GENERAL DISCUSSION

After some six hours' work on the ten samples, there appeared to be considerable doubt whether there was any value in attempting to prove the present methods unsuitable when everyone present had already agreed that such was the case.

After considerable discussion it was agreed to complete the analysis of the ten samples, all to be turned in by 5 p.m. Following were the correct analyses.

SAMPLES:	A—Rag	25
	Softwood bleached sulphite	50
	Softwood bleached sulphate	25
	B—Softwood bleached sulphite	25
	Hardwood bleached soda	60
	Softwood bleached sulphate	15
	C—Softwood bleached sulphite	31
	Rag	50
	Alpha	19
	D—Softwood unbleached sulphate	16
	Softwood bleached sulphate	29
	Softwood unbleached sulphite	55
	E—Unbleached jute	60
	Bleached Manila	20
	Softwood unbleached sulphate	20
	F—Softwood unbleached sulphite	50
	Softwood bleached sulphite	50
	G—Softwood bleached sulphite	38
	Hardwood sulphite	44
	Hardwood alpha	18
	H—Hardwood bleached sulphite	30
	Softwood bleached sulphate	70
	I—Hardwood soda	65
	Softwood bleached sulphite	35
	J—Softwood unbleached sulphate	30
	Softwood unbleached sulphite	25
	Softwood bleached sulphate	45

Mr. Graff pointed out that we should not expect any stain in itself to be a sole means of fiber identification.

Mr. Graff's experience covered about thirty years (He came to the U. S. in about 1920, at that time employed by Brown Company.) His notes for a skeleton course consists of three books, some 240 mimeographed pages 8½x11. A study of botany, fiber and cell markings of pine, spruce, hemlock, fir and the hardwoods, the degree of cooking in the acid and alkaline processes, chemical refining treatments, (pre-chlorination, mercerization, bleaching, etc.) were all necessary for an intelligent understanding of the different fibers which one might expect to find in paper today.

THE MICROSCOPE:

A 16 mm. objective, 10x ocular (with cross hairs, dot or pointer) plain Abbe condenser. Adjustable tube

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 22-25, 1937.

(length used 160 mm.) and mechanical stage were recommended.

Light: This must be right, artificial light is unsatisfactory. Must be done in daylight (north light if possible).

Light focusing: Eye piece unsatisfactory, condenser wide open, *plain mirror* set to light, close condenser until just slightly smaller than objective as seen through the tube. Put in the eyepiece and adjust the mirror. Do not change opening in condenser after this except for different light intensity as the sun changes. The light must be very even avoiding any direct or near direct sunlight. The amount required seemed less than generally used, focusing on a screened window at 12 to 15 feet distance seemed to be satisfactory, although a closer source was used where possible.

PREPARATION OF SAMPLE:

If possible a *minimum* of one inch square from various parts of the sample.

Use of Caustic. Do not use caustic if at all possible to avoid it, as the caustic gives the fiber an alkaline reaction. Distilled water is necessary in some locations. Ordinary water suitable in others where content of mineral salts is low.

Hot water and shaking claimed satisfactory for 95 per cent of samples.

PREPARATION OF SLIDES:

One inch on each end of slide to be used for fiber. 0.5 cc. of fiber suspension. Consistency should be such that you get a total 200 to 300 fibers per inch square when you go five times across the slide when 0.5 cc. of the suspension is used. Samples should be put on with small bulb pipette (similar to a medicine dropper except that the open end is the full size of the tube and not partially closed as with a medicine dropper).

Directions were given for making up a solution to be used for ruling the slide to prevent the water spreading beyond the one inch where it is required.

(The following seems like a lot of work but it would seem to be worth a trial, as we have never seen anything to do the job quite as well. You have to handle the slide very roughly to get the water to spread over the line).

BENZOP SOLUTION:

This is prepared as follows: 66 cc. water, 15 grams Ivory Soap (shaved); Let stand until dissolved; Add 10 grams aluminum sulphate.

A white precipitate of aluminum stearate is formed. Stir with a rod until the precipate coagulates. Lift out with rod and put in a desiccator for 48 hours. Bottle and use as needed. This is known as alum soap or aluminum stearate.

BENZOP FROM ALUM SOAP is prepared as follows: 55 cc. benzene put in a stoppered bottle, add 0.7 gram alum soap; shake each day until thoroughly dissolved. This will require ten days after which it can be used.

Note: If after standing several weeks the solution does not work well, add a piece of alum soap about ¼ the size of a lead pencil eraser.

A number of slides laid side by side may be ruled, using a ruler and ordinary pen. The making is not of a permanent type and will need to be repeated after the slides have been cleaned, to use again.

DRYING:

A hot plate is recommended with a temperature of 60 deg. C. (It is difficult to get a hot plate level).

It is necessary to tap the slide after placing on the ½-cc. suspension in order to get an even fiber distribution. (We have never seen slides with such a uniform distribution of fiber. The Institute staff no doubt have plenty of practice).

PREPARATION OF C STAIN:

They strongly advise adhering to every detail in this. See also PAPER TRADE JOURNAL April 18, 1935, Technical Section Page 204, also Technical Association Papers 1935, Page 294.

All the metallic salts must be made up at a definite temperature and specific gravity (Beaume may be used). They can not be weighed out as they are too hygroscopic.

ZINC CHLORIDE: This must be absolutely pure and dry. Purchase it in small quantities in sealed glass bottles.

ALUMINUM CHLORIDE: Not so particular. C. P. grade satisfactory.

CALCIUM CHLORIDE: C. P. crystalline.

IODINE: *Very important.* It must be pure and dry. (Use weighed amounts).

Iodide and iodine are placed dry in small beakers. Crush together with glass rod. Add one drop of water and mix. Repeat 5 or 6 times, then 2 or 3 drops and repeat 5 or 6 time. *This is claimed to be very important, since it is the only way to get a saturated solution.*

See above references for detail on preparation of solutions.

METHOD OF STANDING:

Care of Solution: The solution is to be put only in glass stoppered brown bottles which are then coated with a black lacquer, wrapped with friction tape and lacquered again. Brown glass dropping bottles were used at the microscopic (lacquered, taped and lacquered as above). (It was claimed that iodine solution would keep as long as water, if the air and light could be kept away from it. A Herzberg slide made in 1914 and sealed and kept in the dark was claimed to have as good color differentiation now as when made).

Staining: Use cover glasses No. 2, 1 inch square, which just cover the fiber covered portions of the slide. Keep cover glasses in a fifty per cent alcohol solution. *Work cleanly.* Two or three drops (four too much) are placed on the fibers and the cover glass placed on as in sketch (Fig. 1).

Fig 1

It is claimed that, in placing the cover glass first with its edge on the Benzop line and lowering it, a minimum of air bubbles will remain on the slide.

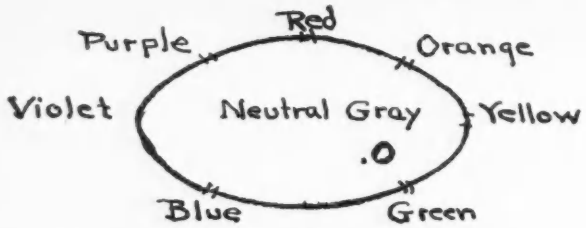
It is important that the stain remain one to two minutes before the excess is drained off to blotting paper from the edges. *Do not press the cover glass.*

Wipe off the bottom of the slide, before placing it on the microscope. There seemed to be a tendency to remove too much of the stain, which would leave part of the slide too dry before you had finished examining it on the microscope.

COLOR:

While this was an extra and was not put forward as being directly connected with fiber identification, it was new to us and we are including the notes, as they may be of interest to some one.

"The study of shadows on snow will give the broadest color education possible."



Spectrum in the Form of an Ellipse (Neutral Gray in the Center)
Fig 2

Moving in from the edge to the center is called *breaking* the color. At .0 we would have a broken green (slightly or highly broken depending on the distance in from the edge).

Place a cone top and bottom of the ellipse (Fig. 3).

The extremities of the cones are known as 100 white and 100 black.

Moving upward from the center of the ellipse is called tinting. Moving downward from the center of the ellipse is called shading.

Position *I* would be a highly broken, highly tinted Red.

Position *II* would be a highly broken red.

Position *III* would be highly broken, highly shaded red.

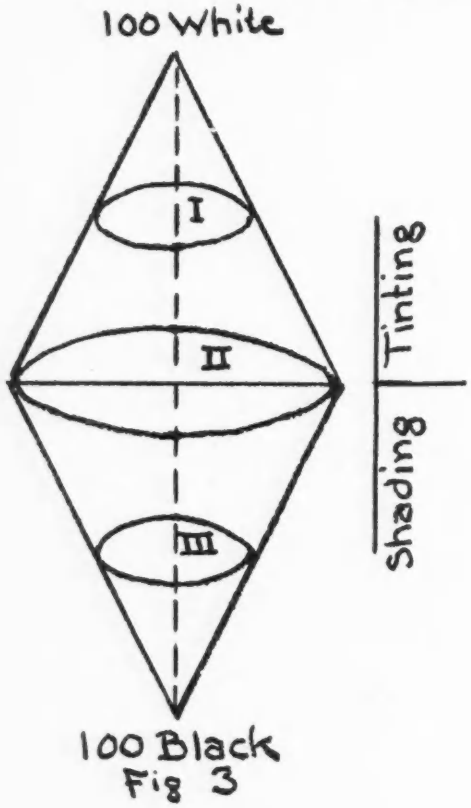


Fig 3

COUNTING:

(Estimation of percentage of various fibres will be out as far as standard methods are concerned.)

Five Lines Approx 5mm. Apart Across the Slide
Fig 4

All fibers to be counted on five lines approximately 5 mm. apart across the slide. (Fig. 4.) Use the vernier, if there is one on the mechanical stage, to get the 5-mm. spacing.

It is necessary to have in the ocular a dot or pointer. Every time this dot or pointed crosses a fibre, count it. Count it each time regardless of how many times it crosses. If it runs parallel, count only once. Groundwood is more difficult to estimate. It is generally over-counted. Try and estimate an average length of fibre in the whole slide, then count one for two, three, four or more pieces, depending on their length. Where two fibres are difficult to separate, count the total and the easier one. Where there are a number of slides to count and check, do not check immediately after the first count. Record all figures and come back to them again.

Centering of the condenser is important. If not centered, the color will be broken and shaded.

Examination of Known Mixtures

Twenty-three known mixtures were examined, using the "C" stain, under Mr. Graff's instruction.

1. **Raw cooked unbleached softwood sulphite and bleached Softwood sulphite**
   The unbleached is a bright yellow (auramine).
   The bleached a light blue with violet tint.
   Pure spectrum yellow—broken blue violet.
2. **Unbleached mitscherlich**
   Softwood bleached sulphite
   Bleached—same as in 1—light blue with violet tint.
   Unbleached is considerably lower in depth of yellow than the raw cooked in 1.
   Broken yellow—broken blue violet.
3. **Fully cooked softwood sulphite**
   Light bleached softwood sulphite
   There was considerable room for doubt in this one. The fully cooked fiber had very little yellow in it, although a shade of yellow seemed to be present over the length of the fiber.
   Bleached has the same light blue violet as in 1 and 2.
   This one is not clear by any means and would require a lot of practice and judgment.
   See also No. 18.
   Heavily broken blue violet—highly tinted gray.
4. **Bleached softwood sulphite**
   Softwood paper grade Alpha
   The Alpha has more red in it than the sulphite. Both have the blue violet tint.
   This one is not very clear.
   Sulphite—highly tinted, heavily broken red violet.
   Alpha—tinted broken orange red.
5. **Bleached softwood sulphite (west coast)**
   Softwood prechlorinated sulphite
   West Coast fiber is very wide and has more red in the color than ordinary bleached.
   Prechlorinated sulphite goes to the blue violet shade and has a mercerized appearance.
   These are not very clear.
   West coast—heavily broken orange red (Little more broken than Alpha)
   Prechlorinated—highly tinted broken violet.
6. **Bleached softwood sulphite (west coast)**
   Softwood paper grade Alpha
   West coast fiber is wider and has more red in the color.
   Alpha is also redder but has typical mercerized appearance.
7. **Softwood bleached sulphite**
   Hardwood bleached soda
   Soda has quite a deep blue color, excellent differentiation when stained.
   Soda—Prussian Blue.
8. **Cotton rag**
   Softwood bleached sulphite
   Rag—heavily broken lightly tinted orange red.
   Rag is red (large variation with depth of red).
   Bleached sulphite—blue violet.
9. **Cotton rag**
   Softwood nitration Alpha
   Cotton rag—red.
   Alpha has a definite reddish cast.
   Nitration—lightly broken, tinted red orange.
10. **Cotton rag**
    102 Fiber (an Alpha treated manila or sisal)
    Notes are not complete here.

11. **Softwood unbleached sulphite (raw sulphite)**
Softwood unbleached kraft (better cooked)
Sulphite is a lemon yellow.
Kraft is a greenish gray.
Kraft is a tinted broken olive green.
12. **Softwood unbleached kraft**
Softwood bleached kraft
Unbleached kraft greenish gray, very light to fairly dark green.
Bleached kraft—deep in color. Grayish blue.
Good color difference in the two.
Unbleached kraft—greenish orange on Summer wood.
Olive green in fairly well cooked.
Bleached kraft—slightly broken blue.
13. **Softwood bleached sulphite**
Softwood bleached refined kraft (Cellate)
Good color difference. Kraft is a grayish blue, lighter than the regular bleached.
Sulphite—light blue violet.
Sulphite—lightly broken, highly tinted purple.
Cellate—highly broken blue.
14. **Hardwood Sulphite** (beech and birch)
Softwood bleached kraft
Sulphite is fully bleached and has a definite violet shade.
The fiber length in this is far greater than we would have expected.
Bleached kraft—deep grayish blue.
Sulphite—lightly tinted, highly broken, reddish purple.
15. **Hardwood sulphite**
Hardwood Alpha
Alpha is definitely redder than sulphite. The hardwood here is not as highly bleached as in 14.
Sulphite—tinted, broken violet.
Alpha—tinted, broken orange red.
16. **Jute unbleached**
Manila unbleached
Jute is a bright orange yellow
Manila is orange yellow tending to a greenish tint or greenish yellow.
Bleached manila goes to a red.
Bleached jute goes to a lighter yellow.
Jute—orange red.
Manila—broken reddish violet.
17. **Hardwood unbleached kraft**
Hardwood bleached sulphite
Kraft is a deep blue (raw fibers green)
Sulphite is more on the red than softwood bleached.
Sulphite—tinted broken violet.
Kraft—lightly broken blue, darkly shaded blue.
18. **Highly cooked softwood unbleached sulphite.**
Permanganate No. 3-4.
Fiber has very little yellow, mostly a bluish gray similar to bleached See No. 3.
Highly broken, lightly tinted yellow into a pale violet gray.
19. **Raw cooked softwood unbleached sulphite**
Yellow shading down to a very light shade of yellow.
Characteristic shades of yellow.
20. **Softwood unbleached sulphite (good cook)**
Softwood bleached kraft
Kraft is a grayish blue, fairly deep.
Sulphite has very little yellow in it, getting down to the blue violet of the bleached.
Sulphite—Highly broken, lightly tinted yellow almost neutral gray.
Kraft—Broken grayish violet.
21. **Softwood bleached sulphite**
Hardwood bleached sulphite
These are very close.
The hardwood has more red in it.
Hard to separate.
Hardwood—broken light violet.
22. **Hardwood soda**
Hardwood Alpha
Soda is a good blue.
Alpha is a reddish violet.
Good color difference.
Soda—tinted blue.
Alpha—lightly tinted, light orange red.
23. **Softwood bleached sulphite**
Hardwood bleached kraft
Kraft is a good blue.
Sulphite is light blue with violet tint.
Sulphite—highly tinted, lightly broken violet.
Kraft—clear deep blue.

Fiber Analysis Past and Present

Mr. Graff: Outline of the life and work of Herzberg, who had retired in 1931 at the age of 70 and was at present living in Berlin. (A cable was sent from the meeting congratulating him on his birthday.)

The paper section of the Bureau of Standards was started in 1911. TAPPI started in 1915 and this was the beginning of the work on standard methods.

The whole problem has become more complicated as the number of paper making fibers increased and the methods of cooking and bleaching changed and the new chemically refined fibers have been put on the market.

An outline of Mr. Graff's recommendations to TAPPI on sampling, disintegration, slide preparation, drying and staining follows:

Staining: An outline of the various staining methods which have been used under the four following classes.

1. Stains for groundwood.
2. Iodine stains.
3. Stains for degree of cooking.
4. Stains for better identification of manila, hemp seed and bast fibers.

Color Charts

Several of these were shown but no copies were available. No time or means was available for copying the exact shades. We have simply marked them as they appeared.

The purpose of these was to show possible applications of the stains for control and quality measurement purposes.

Sulphite Cooking Control: Using the Siebert-Minor Stain.

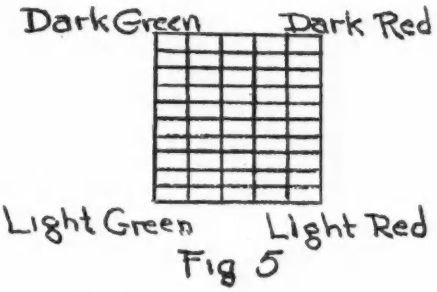


Fig 5

Chart colors (Fig. 5) ranged from Green to red and were numbered 10 to 200.

Curves showed that the numbers correspond with different pulps corresponding with the permanganate number.

Bleach Chart for Unbleached Sulphite (Fig. 6).

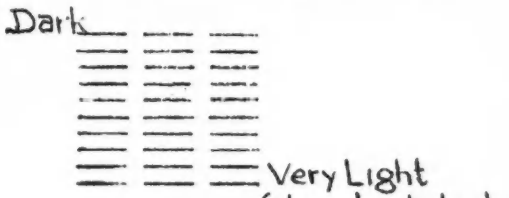


Fig 6

Purity Factor for Rag Quality Using Lofton Merritt (Fig. 7).

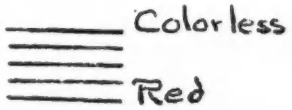


Fig 7

Sulphite and Kraft. Two five-color charts for each showing the range from raw unbleached to fully bleached. Using "C" stain. See page 19.

"C" Stain Differential Staining Chart (Fig 8).

1. Softwood unbleached good cook sulphite and softwood bleached sulphite.

2. Softwood raw cooked sulphite and softwood raw cooked kraft.

3. Softwood unbleached good cook sulphite and softwood bleached kraft.

4. Softwood bleached sulphite and softwood bleached kraft.

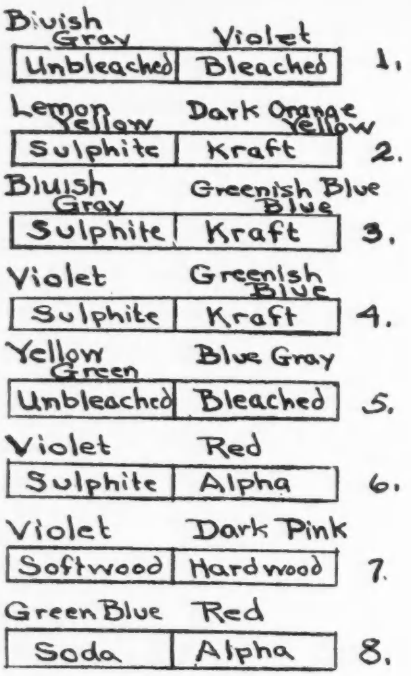


Fig. 8

5. Softwood unbleached good cook kraft and softwood bleached kraft.

6. Softwood bleached sulphite and softwood Alpha.

7. Softwood bleached sulphite and hardwood bleached sulphite.

8. Hardwood soda and hardwood alpha.

DEGREE OF COOKING IN UNBLEACHED SULPHITE

Blue	Using bright stain, five colors.
Gray blue	Ranging from blue to red.
Blue red	
Red blue	Counting the fibers of each color in four samples of Unbleached Sulphite and calculating on a percentage basis to arrive at a cooking value gave the following figures:

Sample No.	Permanganate No.	Cooking Value
1	9.6	24.8 per cent.
2	7.5	43.3
3	4.75	75.7
4	2.6	78.0

BLEACHED AND UNBLEACHED SULPHITE (Fig. 9).

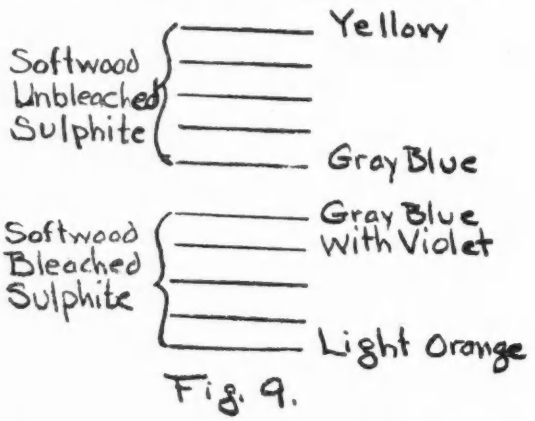


Fig. 9.

The dividing line here is pretty close. Mr. Spence outlined a modified Bright stain which he uses to identify bleached sulphite with well cooked unbleached sulphite.

Remarks: The above chart shows quite definitely the more extended use to which the "C" stain may be put and, while we should not expect to get all the above differentiations without considerable practice, it was agreed that this stain was by far the best single stain, used with one operation, which had been developed so far.

QUANTITATIVE METHODS:

Estimation methods appear to be out.

Count five times across the slide at 5 mm. intervals.

Reports: In all court cases the report should show the percentage by number and by weight.

Report to the nearest one per cent. A trace is one per cent or less.

Iodide—Iodine Stains

HERZBERG	SUTERMEISTER			THE "C" STAIN	
Groundwood	Groundwood	Groundwood		Unbleach	Raw
		Coniferous	Sulphite		Medium
					Cooked
				Bleach	Ordinary
					Prechlorinated
					Alkaline
			Alpha	Paper	
				Nitration	faint
			Kraft	Unbleach	Raw
					Medium
				Bleach	Well cooked
Chemical Pulp		Hardwood	Soda		
			Sulphite	Semi Bleac	
			Alpha	Bleach	faint
				Unbleachec	
			Kraft	Bleach	faint
Rag and Bl. Hemp	Rag and Hemp	Rag			
		Esparto		Unbleache	
		Jute		Bleached	faint
		Hemp			
Jute and u. b. Manila	Jute and u. b. Manila	Manila			
Straw	Straw	Straw		Raw	
				Unbleachee	Faint
				Bleached	

Weight Factors

The proposed weight factors for tentative study are:

Rag	1
Coniferous Sulphite	
Alpha	0.9
Kraft	
Hardwood Soda	0.5
Sulphite	0.6
Kraft	0.7
Alpha	0.55
Bast Fibers	0.55
Groundwood	1.3
Unbleached Alpha	0.7
Bleached Alpha	

There appeared to be evidence from different investigators that: Scandinavian sulphite should have a higher factor than west coast sulphite and that west coast should be higher than eastern sulphite.

Hardwood Alpha should be lower than hardwood sulphite. That the factor for Kraft should be higher than sulphite. Factor for Rope Jute (0.55) was too low.

Requirements for Fiber Analysts

It is quite possible that something of this kind will be brought out before long concerning those who appear in court cases.

1. Is he color blind or not.
2. Is he familiar with color reagents and variations to be expected, not only in the fibre but due to working in different light. (Claim considerable difference when working with light under a snow cloud or rain cloud.)
3. He should be a trained microscopist.
4. He should be familiar with all kinds of paper fibers.
5. He must work within certain accuracy. Possibly 65 per cent of work within 3 per cent, 85 per cent of work within 5 per cent, and 100 per cent of work within 6 per cent.

Modification of Present Methods

A *modified bright stain* was given by Mr. Spence. Used to check the identification of bleached sulphite.

30 grams ferric chloride in 100 cc. of water, 24 grams potassium ferricyanide in 100 cc. of water. Mixed in 1:1 proportion, put on slide for five minutes, washed with cold water, dried in an oven at 207 deg. F. for five minutes. Used to check between well cooked unbleached and bleached sulphite.

A *modified Alexander stain* by Mr. Spence.
Solution A. 50 grams in 25 cc. of water.
Solution B. Herzberg in the usual manner.

Fill a small dropping bottle 2/3 full of A and B to a deep amber color. Check against bleached sulphite and soda and adjust. Bleached sulphite should be pink and bleached soda a deep blue.

Add stain to dried fibers on slide, allow to stand two minutes and examine.

A *modified Bright stain* was given by Mr. Simmons.
A and B solutions are made as in the Bright stain.
C — 0.5 grams of benzo purpurine 4 B
100 cc. 50 per cent alcohol.

Fibers are treated on the slide for one minute with equal amounts of A and B. Excess stain is removed and C stain added leaving on for two mintes. (If warmed a shorter time will be required.)

Wash and mount in distilled water.

"C" STAIN ON SOFT WOODS—PREPARED BY F. C. CLARK AND L. S. REID

	Sulphite	Ridgway	Kraft or Sulphate	Ridgway
Unbleached				
Raw Cook	s.b. yellow t.b. yellow (a)	f YO-Y Cartridge Buff	s. b. greenish yellow	d YG-Y Mineral Gray d OY-O Ecru Drab
Raw to Medium	lt. lb. yellow (a)		t. hb. olive green	
Raw to Medium	lt. lb. yellow (a)			
Mitscherlich	ht. hb. yellow			
Good Cook	ht. hb. yellow to neutral gray			
Well cooked	ht. hb. yellow to neutral gray			
Well cooked	ht. hb. yellow to neutral gray			
Bleached				
Light or semi-bleached	ht. hb. blue violet	f OY-O Pale Vinaceous Fawn	ht. b. blue t. b. blue t. b. blue (Cellate) lt. b. blue	(Sibek) f G-B-G Glaucous Gray
Full Bleached	t. hb. to b. blue violet ht. or lt. to b. blue violet	F Red Pallid Purple Drab		
	ht. or lt. to b. blue violet ht. b. blue violet t. hb. violet	g RV-R Very light Vinaceous Gray		f V-B Pale Violet Plumbaceous (Duracel) d RR-V Deep Vinaceous Lavender (Cellate)
	ht. lb. purplish red (violet) ht. lb. purplish red (violet)			
Alkaline bl. West Coast (alkaline bl.)	ht. lb. to hb. purple violet t., b.hb. violet t., b.hb. violet	f Red Pale Purple Vinaceous		f RV-R Pale Vinaceous Lilac
P.C. (Pre-chlorinated) Alpha (Paper Grade) Lt. bl.	ht. b. violet t., b. orange red			
Alpha (Nitrate Grade) Lt. bl.	ht. lb. orange red lt. hb. orange red	b O-Y Cinnamon Buff		
Alpha Unbleached (Solka)				
Alpha Light Bleached (L.T. Alpha)		e RR-V Light Purplish Lilac		
Alpha Bleached		e O-R Light Corinthian Pink		
		e OO-R Light Pinkish Vinaceous Light Vinaceous Congo Pink		

(a) Raw Cook indicated by fiber bundles—more cooked then less fiber bundles.
Lacey marks on coniferous found only on sulphite: t—tinted; b—broken; ht—highly tinted; hb—highly broken; lt—lightly tinted; lb—lightly broken.

"C" STAIN ON HARD WOODS—PREPARED BY F. C. CLARK AND L. S. REID

Sulphite		Ridgway	Kraft or Sulphate	Ridgway
Unbleached				b / RR-V — Light Vinaceous Purple BG-B Orient Blue
Highly cooked			t. (lb.-b.) blue	
		e / BV-B — Very light grayish blue violet		
Bleached		e / Blue — Very pale Windsor blue		
		f / OR-O — Pale grayish vinaceous		
		f / Red — Pale purplish vinaceous		
Semi-bleached	t. hb. violet blue t. b. purple red violet blue t. b. purple red		lt. lb. blue	
Highly Bleached	t. lt. b. purple red			b / BG-B — Alice Blue (Sibek) (Duracel)
				d / RR-V — Deep Vinaceous Lavender
				b / BD-B — Alice Blue (Cellate)
Alpha (No. 60)	t. b. orange red	d / OO-R — Pinkish vinaceous		
Alpha	t. b. orange red	OO-R Etruscan red		
		e / OO-R — Light vinaceous Congo pink		
		e / Red — Light vinaceous		

SODA—HARDWOOD

Bleached	t. b. blue t. b. blue	d / BG-B — Russian blue

MISCELLANEOUS

Cotton—lt.,, b., red.
102 Fiber—lt., hb., purple.
Jute (Unbl.)—lt., lb., orange yellow to lighter color when cooked and bleaching.
Manila (Unbl.)—b., purple to red with cooking and bleaching.

Ridgway	
No. 101 Sisal Unbl.	c / O-R — Very light Jasper Red
No. 101 Sisal Bl.	d / V-RR — Rhodonite Pink
Rag	OO-R Coral Red

This is used to show the presence or absence of groundwood and unbleached sulphite. (There seemed to be a general opinion that a part of well cooked, unbleached Sulphite could be substituted for bleached and the substitution could not be proven by any of the stains.)

Examination of Unknown Mixtures

Examined eight unknown mixtures with "C" stain under Mr. Graff's instruction.

1. Unbleached kraft
   Bleached kraft.
   Unbleached is a greenish yellow. Bleached is a blue violet, good differentiation.
2. Unbleached sulphite
   Unbleached kraft
   Sulphite yellow, kraft a greenish gray (different degree of cooking than in 1.)
3. Bleached manila
   Bleached rag.
   Rag is red. Manila very much the same.
4. Unbleached sulphite (raw)
   Bleached sulphite
   Unbleached is a bright yellow
   Bleached is a light violet blue.
5. Bleached kraft.
   Color is a fairly deep grayish blue.
6. Unbleached jute
   Unbleached manila
   Unbleached kraft
   Jute a bright orange, manila greenish yellow and kraft a greenish gray.
7. Hardwood sulphite
   Hardwood Alpha
   Sulphite a bluish violet. Alpha has more red.
8. Hardwood soda
   Hardwood Alpha
   Soda is a good blue. Alpha more of a reddish violet.

Committee Recommendations

It is necessary to retain T 401 as the official standard. The chart showing the Herzberg, Sutermeister and "C" stain should be included in it. The whole method should be rewritten and a number of details added and changed in accordance with Mr. Graff's recommendations.

The "C" stain should be sent out as a proposed tentative standard. The preparation to be taken care of by Mr. Graff. The purpose is to acquaint more people with the method. After a certain time, it may be included in or become the official standard.

These are really only recommendations and are subject to the approval of the Standards Committee.

A motion of thanks and appreciation was passed by the meeting for the splendid work done by Mr. Graff and the manner in which this course had been conducted.

A dinner was held at 7:30 p. m., during which a suitable presentation was made to Mr. Graff by the group of TAPPI members who attended the symposium.

Proposed Revision of T 401m Fiber Composition of Paper

I. Apparatus

MICROSCOPE

1. A compound microscope 160 mm. tube length giving 100 diameters magnification (10 x Hunygenian eyepiece and 16 mm. objective) equipped with a mechanical stage and an adjustable Abbé condenser shall be used for the determination of fibre composition.

EYEPIECE

2. The eyepiece shall be equipped with a suitable reference point for counting the fibres passing under it. The reference point shall be obtained by one of the following ways:

(a) A pointer in the eyepiece. The bottom lens of the eyepiece is removed and a rayon filament approximately 0.03 mm. in diameter is cemented at each end to the diaphragm with Canada balsam. After the balsom has dried the thread is clipped at the center and half is removed.

(b) Cross-hair disk. It is possible to construct a satisfactory cross line disk by the use of two silk fibers, approximately 0.01 mm. in diameter obtained by untwisting silk thread. The fibers are drawn across the center of a round cover glass 18 mm. in diameter at right angles to each other. They are cemented to the edges of the glass with Canada balsam or other adhesive and the protruding ends cut off. The cover glass is then placed, with the fibers on the under side, on the diaphragn of the eyepiece of the microscope and cemented in this position with Canada balsam.

(3) A cross hair eyepiece. This type of eyepiece is carried by manufacturers. It may be made by the same method as (a) by using 0.01 mm. rayon filament and cementing two threads intersecting at the center at right angles.

(d) Dot. This is to be made by placing a black ink dot *0.5* mm. in diameter at the center of a round glass cover and inserting in the eyepiece.

(e) A graticule or cross line disk. A graticule or cross line disk is carried in stock by many manufacturers of optical equipment. It is a round glass disk which fits in the standard microscope eyepiece and has two lines at right angles to each other engraved on one side. With it is usually supplied a simple spring ring to hold it against the diaphragm of the eyepiece.

DROPPER.

3. This shall consist of a glass tube 20 cm. long and 6 mm. internal diameter, fitted at one end with a rubber bulb and having the other end carefully smoothed but not constricted. The tube shall be graduated at the lower end so as to deliver 0.5 cc.

SLIDES AND COVER GLASSES.

4. The slides shall be 1 x 3 inches of colorless glass ruled with an aluminum soap solution 1 inch from each end in such a manner that the suspension from the dropper will stay within this area. The cover glasses shall be No. 2 1 x 1 inch. Several slides may be ruled side by side with an inch wide straight edge using a writing pen and an aluminum soap solution (Benzope) prepared as follows: Into 600 cc. distilled water place 15 gr. of Ivory soap shavings, when dissolved add 10 gr. aluminum sulphate and stir until the precipitate forms a wax-like mass. The precipitate shall be removed, desiccated for 48 hours or more and placed in a bottle until needed. For use, 0.7 gr. of aluminum soap is dissolved in 50 cc. benzene (as the soap is not very soluble this will require intermittent shaking for about ten days). This solution is called Benzop and was developed by M. A. Schlosser of the Institute staff. Slides and cover glasses should be washed in 50 per cent alcohol without acid before use.

HOT PLATE.

5. The hot plate shall have a solid metal top and shall heat to 60 to 70 deg. C. The top of the hot plate may be painted with black enamel paint, well baked on, and then marked with suitable lines to correspond with the lines on the ends of the slides. This is for convenience in making up samples.

II. Test Specimen

COMPOSITION.

1. The specimen for test shall consist of pieces having a total area of 25 square centimeters (4 square inches) cut from different portions of the test sample, so as to be representative of it. If sufficient specimen is not available an area of 3 square centimeters (½ square inch) will be recognized for fiber analysis and 0.9 square centimeters (⅛ square inch) for fiber identification.

PREPARATION FOR EXAMINATION.

1. *Disintegration.* (a) Tear the sample into small pieces, place in a small beaker, cover with distilled water, bring to a boil on a hot plate, decant the water, roll the individual pieces into small pellets between the fingers and place in an Erlenmeyer flask. When all the pieces have been rolled into pellets and placed in the flask, add a little distilled water, and shake vigorously until the water is thoroughly absorbed by the paper. Add a little more water, shake well, again add some water and shake, and continue doing so until the paper has been thoroughly disintegrated. Dilute the suspension by throwing away part of it and adding water to the remainder until the suspension has a consistency of about 0.05 per cent. Then pour into test-tubes.

(b) If the degree of beating and the fiber length is of no interest, the disintegration can be done in an electric soda fountain mixer.

(c) In cases where the fibers cannot be disintegrated by first boiling in distilled water, the samples should be covered with 1 per cent caustic soda, brought to a boil on a hot plate, the alkaline solution decanted, the sample washed twice with distilled water, covered with N/20 HCl or stronger if necessary for carbonate filled paper, allowed to stand several minutes, the acid decanted and worked several times with distilled water and then disintegrated as under (a)

(d) Special treated papers must first be treated as described in the special method, (no standard methods, cf. literature).

2. *Preparing the Slides.* The microscopic slides are kept in 50 per cent alcohol. After the slide has been dried and polished, lines one inch from each end are drawn on it with a soft lead pencil or aluminum soap-Benzop. The line will keep the fiber suspension inside the given area one square inch at each end. Dust, lint, and graphite particles are removed from the slide with a small camel's hair brush. Place 0.5 cc. of the prepared sample on each end of the slide, the slide then being placed on a hot plate at 60 degrees C. The hot plate must be absolutely level.

3. *Staining.* After the fibers have been dried on the hot plate, apply three to four drops of the stain, cover the whole with a cover glass in such a manner as to avoid air bubbles, let stand for one to two minutes and drain off the surplus by tipping the slide edgeways on a blotter.

III. Procedure

METHOD OF OBSERVATION.

1. The prepared slides shall be examined microscopically using a magnification of 100 diameters. Place the stained slide on the mechanical stage of the microscope and count the fibers across the slide beginning 2½ mm. from one long edge making five trips across one end of the slide along lines spaced approximately 5 mm. apart. The distribution of fibers on the slide shall be such that five trips across the slide at 5 mm. intervals shall be between 200 and 300 fibers. Repeat this on the sample on the other end of the slide. If these two results agree within 5 per cent no further counts shall be made, but if they do not agree another count shall be made on one end of a second slide and the three results averaged.

2. As each fiber passes under the reference point in

the eyepiece, count it as one regardless of its size. If aggregations of fibers, such as occur in groundwood, are encountered the number of single fibers in the aggregation shall be estimated and counted as if the fibers were separated completely. The following weight factors shall be used to compensate for the difference between area and weight of fibers:

Rag	1.00	
Coniferous (bleached and unbleached sulphate)	0.9	
Coniferous (bleached and unbleached sulphite)	0.7	
Deciduous Soda	0.5	(Maple, 0.36; Poplar, 0.46; Beech, 0.55; Birch, 0.66).
Deciduous Sulphite	0.6	(Maple, 0.5; Poplar, 0.6; Beech, 0.58; Birch, 0.72).
Deciduous Alpha	0.55	
Deciduous Kraft	0.7	
Groundwood	1.3	
Bast Fibers	0.55	(a very tentative figure).

STAINS.

3. For all purposes except as specified below, either the Herzberg or the Sutermeister stain shall be used. These shall be prepared and used as follows:

Herzberg. Prepare the following solutions:

(A) An aqueous solution of C.P. zinc chloride (fused sticks in 50 gram unbroken sealed bottles) saturated at 70 deg. F.

(B) 0.25 gram of C. P. iodine and 5.25 grams c.p. potassium iodide dissolved in 12.5 cc. of distilled water. Mix 25 cc. of solution "A" measured at 70 deg. F. with solution "B". Pour into a narrow cylinder and allow to stand until clear. Decant the supernatant liquid into an amber-colored glass-stoppered bottle and add a small piece of iodine to the solution. The following colors are developed by this stain:

Red—Linen, cotton, bleached manila, hemp.
Blue—Chemically prepared fibers low in lignocellulose, from wood, straw and esparto.
Yellow—Fibers high in lignocellulose such as groundwood, jute and unbleached manila hemp.

"A" Stain (Modified Sutermeister Stain)

A solution of 1.36 sp. gr. at 28 deg. C. is made by adding about 100 grams of c.p. calcium chloride solution to 150 cc. of distilled water. This is known as the calcium chloride solution to which is added 5 cc. of standard iodine solution made by adding 0.9 gram of dry potassium iodide and 0.65 gram of dry iodine to 50 cc. of distilled water. Mix well, pour into a dark bottle, add a leaf of crystal iodine and keep in the dark when not in use. The colors for these are as follows:

Groundwood—Yellow.
Raw Unbleached sulphite—Violet.
Softwood unbleached sulphite—tinted highly broken red.
Softwood unbleached kraft—tinted highly broken red.
Softwood bleached sulphite—tinted highly broken violet.
Softwood bleached kraft—tinted highly broken orange red.
Hardwood unbleached kraft—shaded highly broken blue violet.
Hardwood bleached kraft—lightly tinted broken red violet.
Hardwood soda—highly broken violet red.
Hardwood sulphite—tinted highly broken blue violet.
Hardwood Alpha—tinted highly broken red orange.
Rag—lightly broken orange red.
Jute, Manila and some of the less cooked fibers in unbleached sulphite—greenish yellow.

Lofton-Merritt Stain[1]

This stain shall be limited to coniferous (softwood) unbleached sulphite and coniferous (softwood) untreated unbleached kraft, and must not be used to distinguish bleached and unbleached pulps. It shall be prepared as follows:

(a) 2 grams malachite green in 100 cc. water.
(b) 1 gram basic fuchsine in 100 cc. water.

These shall be mixed in the proportion of 1 part (a) to 2 parts (b). As dyes from different sources vary it is necessary to test them by staining known fibres. Unbleached sulphite fibers are stained blue or bluegreen and unbleached sulphite fibers purple or lavender. If any purple fibers appear in unbleached sulphate fibers this indicates there is too much fuchsine present and more malachite green solution must be added. The opposite is indicated if some unbleached sulphite fibers develop a green or blue color.

Kantrowitz-Simmons Stain (Modified Bright Stain).

This stain shall be used only to show the presence or absence of groundwood and unbleached pulps. The stain is made up and used in the following manner.

Solution A. 2.7 grams ferric chloride in 100 cc. distilled water.
Solution B. 3.29 grams potassium ferricyanide in 100 cc. distilled water.
Solution C. 0.5 grams benzopurpurine 4B crude in 100 cc. of 50 per cent alcohol (dissolved hot).

Mix equal parts of A and B, put a few drops on the slide, let stand for 1 minute, blot off, rinse in distilled water, blot, and stain with C. Let stand for 2 minutes, blot, rinse, and mount. The slide should be such that the count method can be used, and staining should be done on the microscopic bench.

IV. Report

The proportion of the various fibers found shall be reported in terms of percentages of the total fiber composition to the nearest per cent, specifying whether by number or by weight. The nomenclature which covers the Herzberg Modified Sutermeister (or "A" Stain) and suggested "C" stains shall be used. This is shown in the table entitled Iodide-Iodine Stains. Amounts of 1 per cent or less shall be reported as a "trace".

The Lofton-Merritt stain permits reporting coniferous (softwood) unbleached sulphite and coniferous (softwood) untreated unbleached kraft.

The Kantrowitz-Simmons stain does not allow the reporting of percentages, only the presence or absence of groundwood and unbleached pulps.

V. Precision

An accuracy of ±3 per cent is possible by this method.

Proposed Tentative Standard

"C" STAIN.

A. *Standard Iodine Solution.*
50 cc. of distilled water, add 0.90 gram dry postassium iodine, 0.65 gram dry iodine.

[1]Method of Differentiating and Estimating Unbleached Sulphite and Sulphate Pulp in Paper. R. E. Lofton and M. F. Merritt, Technologic Paper No. 189, U. S. Bureau of Standards.

B. *Aluminum Chloride Solution.*
1.15 sp. gr. at 28° C. is made by adding about 40 grams of aluminum chloride ($AlCl_3 \cdot 6 H_2O$) to 100 cc. of distilled water.

C. *Calcium Chloride Solution.*
1.36 sp. gr. at 28° C. is made by adding about 100 grams C.P. calcium chloride to 150 cc. of distilled water.

[1] Method of Differentiating and estimating unbleached Sulphite and Sulphate Pulp in Paper. R. E. Lofton and M. F. Merritt, Technologic Paper No. 189, U. S. Bureau of Standards.

D. *Zinc Chloride Solution.*

1.80 sp. gr. at 28° C. is made by adding about 100 cc. of distilled water to 200 grams of C.P. zinc chloride (fused sticks in sealed glass containers).

To 20 cc. of solution B, 10 cc. of solution C and 10 cc. of solution D, add, after first having mixed solutions B, D, and C thoroughly, 12.5 cc. of solution A. Mix well, pour into a tall, narrow vessel and place in the dark. After 12 to 36 hours, when the precipitate has settled, pipette off the clear portion into a dark glass stoppered dropping bottle, add a leaf of crystal iodine and keep in the dark when not in use.

Note: All of the standard solutions must be at their exact specific gravities and must be measured with pipettes graduated to 0.1 cc.

Staining.

Put on the slide, prepared by the standard method, 3 to 4 drops of the stain, carefully place a cover glass on the stain in such a manner that there are no air bubbles, and so that nothing of the stain flows outside the sample; let stand from one to two minutes, then drain off the surplus stain by carefully tilting the stained slide on edge on a clean absorbent blotting paper. See that the under part of the slide is perfectly dry and clean, and place on the microscopic stage.

Note: It is absolutely essential that the condenser of the microscope is properly centered for axial transmitted light, that the condenser diaphragm has the proper opening, about two-thirds of the diameter of the black lens of the objective, and that, so far as possible, clear Northern Sky is used for illumination.

The fibers it is possible to identify by this stain are given in the foregoing table under "C" Stain.

Note: Although this report is not written in the usual form followed in Technical Association papers and contains some repetition it is presented in full for the benefit of those who are interested in the many details brought out at the symposium.—Editor.

Printing With Rapid Drying Inks*

By Charles MacArthur[1]

Abstract

A review of some of the problems met with in the use of rapid drying inks such as Vaporin in printing.

Ink Drying by Oxidation

Over 250 years ago (1683) Joseph Moxon published his "Mechanick Exercises," setting forth all that was then known about how to print, in which he included a sly dig at whom to blame for bad printing. Joseph was the outstanding printing authority of that time. Listen to the remark he made about the ink makers' morals: "The making of good incks depends upon the conscience of the inck maker." Now the sting is taken out of this dirty dig by its utter absurdity, because what printer living or dead ever suspected an ink maker of having any such thing as a conscience? However, there were a few fair-minded fellows who had a lurking suspicion that old Joe was on the payroll of the pulp and paper makers guild. And I venture to say that ink makers would gladly include any or all of the ten commandments in their formulae if they only suspect these moral precepts would improve the printability of their inks and, above all, reform ink smut and set-off.

From the time that Gutenberg pressed ink on paper, linseed oil has been the principal vehicle and binding agent for ink pigments. Its chemical composition has not been accurately determined. However, the fatty acids and glycerides which impart to the oil its natural drying or oxidizing properties have been definitely identified. These acids slowly absorb oxygen from the air, resulting in a chemical conversion of the oil into a tough elastic film of linoxin.

A film of oil 12/100,000 of an inch in thickness, and which represents about the thickest film of ink that can be cleanly printed on the average coated papers, takes approximately 50 hours to dry naturally when spread on a hard surface.

It was found, that the sluggish oxidizing action of the oil could be considerably accelerated by the addition of the organic salts of certain metals commonly called driers. The action of these driers is not clearly understood. The presumption is that they either function as catalysts or merely act as conveyors of oxygen to the oil.

Cobalt is the most potent drier known to ink chemists. It is four to five times more effective than the lead or manganese compounds. However, it does not follow that because a certain percentage of this drier will promote ink drying to within several hours, that a larger dose will correspondingly stimulate drying action. On the contrary, an excess of, or the injudicious use of it will impair workability on the inking facilities, actually retard drying action on the paper, and may even destroy the adhesive property of the oil for the stock.

With respect to the time factor, it is evident that ink drying by the oxidizing of its vehicular binder has well defined limits. Therefore, in inks designed for web-fed magazine printing, the oxidation of the vehicle can play only a secondary or minor part. In newspaper printing it plays no part. In this case, the "ink setting" principle is utilized by employing an extremely fluid non-drying mineral oil to penetrate rapidly into a highly absorbent newsprint stock. Carried to excess in modern newsprinting, one can almost get a shoe shine from the free carbon on any late edition newspaper. This is the next "smutter" in line for reform.

From slow plodding oxidation with its desirable surface drying, up to quick setting penetration with its excessive "dryback", ink makers and paper makers have perhaps exhausted every conceivable compromise in their efforts to produce clean and attractive printing on web-fed magazine presses. But despite the expense and the nuisance of the traveling tympan, and skinning down of the ink film to a dull, flat print, the perfected side of a magazine page is still plagued with that stubborn pest, smut.

Ink Drying by Evaporation

The discovery of the rotary intaglio, or gravure process, by Karl Klietsch (Klic), showed the way to rapidly dry printed ink by first adding a volatile solvent to the ink binder, then evaporating the solvent therefrom. This principle has been the exclusive property of the gravure process for over forty years. The letterpress and offset processes could not take advantage of this rapid drying principle, because of the ink chemist's lack of knowledge of how to control such a solvent on the exposed inking facilities of their presses.

The far reaching changes brought about in the paint and lacquer industry by the use of nitro-cellulose, synthetic resins, solvents and plasticizers inspired the ink chemist to explore this alluring field, to ascertain if these almost

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 22-25, 1937.

[1] Reynolds Metals Company, Harrison, N. J.

magical materials could be utilized in formulating inks for high-speed letterpress printing. Problems in adaptation were infinitely more difficult for the ink chemist than for the lacquer chemist, since a spray gun or lacquer brush does not have much in common with inking rollers of printing presses.

After intensive research and exhaustive experiments the findings of the chemist were turned over to the pressman. Again innumerable experimental testings, then cooperative research with engineers. Problems in the relative efficiencies of vaporizing systems and their operating costs had to be worked out, that challenged the ingenuity of chemist, engineer and pressman. But, step by step, ink-smut and set-off were finally subdued, and today webs of paper bearing full strength colors are traveling through successive printing couples, and down through folders or into rewinds at a rate of 500 feet a minute, without a trace of set-off or smut—without using traveling tympans.

In graduating from the oxidizing and the penetrating classes, into the evaporating class, Vaporin suggests that press designers make provision for a solvent evaporating system such as they invariably do in designing web-fed gravure presses, because their ink-drying principles are quite similar. Vaporin also suggests that paper makers revise their conception of what constitutes the most favorable substance and finish for high-speed magazine papers. Stress is specifically laid on good printability because over 90 per cent of a Vaporin ink film will rapidly solidify on the surface of the paper if the stock is not too absorbent.

Vaporin Drying Principle and System

A brief description of the principal properties of Vaporin ink and its vaporizing system may be sufficient to explain the reason for these suggestions to press builders and paper makers.

Expressed in simple terms, Vaporin ink comprises essentially: a solid resin, a high boiling solvent, and coloring pigment. The solvent is employed to dissolve the resin which acts as the binding agent for the pigment. When this solvent is converted into a vapor by heat, the resin is restored to its original solid state. Unlike the varnish of the normal letterpress and offset inks which is chemically converted by oxidation into a hard or dry film, Vaporin varnish merely undergoes a physical reaction in its re-hardening process, or the so-called drying of its ink film.

The vaporizing system includes premixed air and gas in the ratio of 4.6 to 1 respectively, and is applied under approximately half pound pressure through cup shaped ceramic burners to the printed side of the web. These individual burners are arranged in staggered formation to ensure a uniform application of the flames, and are rotatably mounted so that the flames are rotated to and from the web when the press starts and stops. This provision is to avoid igniting a non-traveling web, and the flames are automatically reduced to a minimum when removed from their operating position. A vapor exhaust removes the vaporous solvent. Cooling drums are employed to recool the resin and the web.

In the making of papers, inks, rollers, plates and presses, one or more compromises are invariably included, and perhaps always will be. In this respect, chemists, engineers and pressmen are constantly striving to find the closest approach to the ideal compromise in the printing and drying of Vaporin inks. In other words, they are seeking among suitable synthetic resins and solvents the best combination thereof, which will remain reasonably stable on the inking facilities and which require the lowest temperature of applied heat to convert the solvent into a vapor in the shortest space and time.

It is obvious that in applying heat to a printed ink film to vaporize its solvent content the resin is also heated. Hot resin is extremely tacky and will adhere to, and accumulate on the surface of a drum or idler brought into tensional contact therewith. Therefore, it is just as important to recool the resin as it is to expel the solvent therefrom, but at the proper time. Otherwise, should the resin be chilled too quickly it will trap under its frozen crust any remaining unvaporized solvent and also tend to condense back on the print the adjacent vapors already arising from the ink film, with the result that ink drying is retarded and perhaps indefinitely checked.

The intensity and volume of heat application necessary for a given condition is determined by press speed, insulating property of the stock, the area and layers of superimposed ink films. A simple method that was found to calculate the heat required to insure ink drying regardless of press speed and the other stated conditions was to raise the temperature of the web's surface to approximately 250 deg. F. The reading to be taken on the web at the outlet of the heating chamber. The instrument employed is a specially designed surface pyrometer.

Loss of Moisture from Stocks

It is also apparent that a loss of moisture results from heat treating a web of paper to this temperature. During a series of printing and heat drying tests it was revealed that the moisture loss from papers ranging from machine finish to coated, showed variable losses down to a certain point and then ceased. Most of you men here are better qualified than I, and I prefer to have you explain why, regardless of an indicated moisture content of 5, 6 or 7 per cent in these various stocks before heat treatment, all stocks after treatment showed 3.2 to 3.5 per cent of moisture retention.

In view of the consistency of the stopping point at 3.0+ per cent the theory is invited that only the interstitial material or matter surrounding the fibers is dehydrated at this temperature, while the moisture in the fibers remains intact. It was observed that if these heat treated stocks were exposed to the atmosphere for a short time a considerable portion of lost moisture was recovered or replaced. But when a section of the web was allowed to remain in the heating chamber only a few minutes, or the traveling web subjected to heat much in excess of a registered temperature of 250 deg. F. at exit of chamber, then the recuperative ability of the interstitial matter was destroyed. This may be accounted for in that the fibers were partially or totally dehydrated and a chemical transformation occurs that renders both the interstitial matter and fibers incapable of moisture recovery.

If this hypothesis is reasonably correct, the answer to the problem resides in replacing the lost moisture simultaneously with its evaporation from the web or immediately thereafter. I understand that a simple means is being provided to accomplish this objective. It consists of mounting on the lower cover of the heating chamber a series of mutilated channels wherein a shallow stream of water slowly descends and is gradually vaporized by the radiant heat which penetrates through the web. The rising water vapors are impinged on the underside of the web and conveyed thereby to the chilled drum and condensed thereon under tensional pressure. The quantity of moisture thus imparted to the web is regulated by the flow of water to the winding channel. The tops of the mutilated channel are within a fraction of an inch of the reverse side of the web, hence will serve to support it when web tension is relaxed, and being water cooled, web scorching is avoided.

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NEW YORK IMPORTS

WEEK ENDING OCTOBER 2, 1937

SUMMARY

Cigarette paper	70 cs.
Wall paper	17 cs.
Paper hangings	5 bls., 3 cs.
Wall board	3,821 bdls.
Newsprint	10,711 rolls
Printing paper	138 rolls, 65 cs.
Packing paper	10 bls.
Wrapping paper	490 rolls, 45 bls., 24 cs.
Filter paper	60 pkgs., 33 cs.
Drawing paper	111 cs.
Basic paper	63 crates, 21 cs.
Metal coated paper	75 cs.
Coated paper	19 cs.
Baryta coated	110 crates
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R. J. Reynolds Tobacco Co., *Manhattan,* Havre, 70 cs.

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———, *Manhattan,* Havre, 9 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *Georgic,* London, 5 bls., 3 cs.

WALL BOARD

Treetex Corp., *Gripsholm,* Gothenburg, 2510 bdls.
Treetex Corp., *Minnequa,* Horneborg, 1311 bdls.

NEWSPRINT

Daily Mirror, Inc., *Speybank,* Quebec, 4724 rolls.
Jay Madden Corp., *Stuttgart,* Bremen, 270 rolls.
Jay Madden Corp., *Stuttgart,* Hamburg, 169 rolls.
Perkins Goodwin & Co., *Stuttgart,* Hamburg, 264 rolls.
N. Y. Evening Journal, *Pr. Roosevelt,* Hamburg, 335 rolls.
Jay Madden Corp., *Pr. Roosevelt,* Hamburg, 58 rolls.
Jay Madden Corp., *Columbus,* Bremen, 162 rolls.
International Paper Co., *A.C.D.,* Donnacona, 309 rolls.
H. G. Craig Co., Inc., *Kermic,* Donnacona, 307 rolls.
International Paper Co., *International No. 1,* Gatineau, 310 rolls.
Jay Madden Corp., *St. Louis,* Hamburg, 537 rolls.
Jay Madden Corp., *Blankaholm,* Kotka, 558 rolls.
N. Y. Evening Journal, *Blankaholm,* Kotka, 767 rolls.
Lunham & Reeve, Inc., *Scanstates,* Kotka, 344 rolls.
Jay Madden Corp., *Scanstates,* Kotka, 331 rolls.
International Paper Co., *G.T.D.,* Gatineau, 315 rolls.
Jay Madden Corp., *Manhattan,* Hamburg, 377 rolls.
Jay Madden Corp., *New York,* Hamburg, 475 rolls.
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Steiner Paper Corp., *Columbus,* Bremen, 9 cs.
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Gevaert Co. of America, *Pennland,* Antwerp, 75 cs.

PHOTO PAPER

Medo Photo-Supply Co., *Georgic,* London, 2 cs.

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B. F. Drakenfeld & Co., *Samaria,* Liverpool, 30 cs. (duplex).

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F. L. Kramer & Co., *Gripsholm*, Gothenburg, 197 bls.

RAGS, BAGGINGS, ETC.

———, *Sawokla*, Port Said, 79 bls. rags.
D. S. Stern Corp., *Pr. Roosevelt*, Hamburg, 9 bls. rags.
G. A. Henshaw & Son, *Pr. Roosevelt*, Hamburg, 143 bls. flax waste.
Poumar Textile By Products, *Statendam*, Rotterdam, 80 bls. bagging.
Hughes Fawcett, Inc., *Cameronia*, Glasgow, 37 bls. flax waste.
———, *Cameronia*, Glasgow, 57 bls. paper stock.
E. J. Keller Co., Inc., *Silverash*, ———, 24 bls. rags.
W. Steck & Co., *Silverash*, Bombay, 55 bls. rags.
Keene, Inc., *Silverash*, Bombay, 117 bls. rags.
———, *Samaria*, Liverpool, 52 bls. rags.
J. Cohen & Son Co., Inc., *Samaria*, Liverpool, 12 bls. rags.
Manufacturers Trust Co., *Banaderos*, London, 32 bls. rags.
W. Steck & Co., *Banaderos*, London, 74 bls. waste strings.
E. J. Keller Co., Inc., *Exchester*, ———, 65 bls. new cuttings.
Philadelphia Natl Bank, *Pennland*, Antwerp, 239 bls. rags.
———, *American Banker*, London, 87 bls. old strings.
National City Bank, *Noto Maru*, Kobe, 50 bls. thread waste.
Darmstadt Scott & Courtney, *Noto Maru*, Kobe, 25 bls. thread waste, 50 bls. art. silk waste.
Chase National Bank, *Turksib*, Leningrad, 1524 bls. rags.
Amtorg Trading Corp., *Turksib*, Leningrad, 1210 bls. cotton waste.
———, *Yucatan*, Havana, 377 bls. rags.
Castle & Overton, Inc., *Black Condor*, Rotterdam, 111 bls. bagging.
Darmstadt Scott & Courtney, *Black Condor*, Rotterdam, 4 bls. bagging.
R. Blank, *Black Condor*, Antwerp, 88 bls. rags.
Van Oppen & Co., *Black Condor*, Antwerp, 93 bls. rags.
———, *Black Condor*, Antwerp, 10 bls. rags.
Irving Trust Co., *Lehigh*, Leith, 238 bls. bagging, 25 bls. paper stock.
R. Blank, *Indep. Hall*, Havre, 100 bls. rags.
Royal Manfg. Co., *Indep. Hall*, Havre, 60 bls. thread waste.
R. Blank, *Exochorda*, Alexandria, 425 bls. cottons.
Hicks Costarino Co., Inc., *Exochorda*, Alexandria, 219 bls. rags, 80 bls. tares.
Castle & Overton, Inc., *Exochorda*, Alexandria, 92 bls. rags.
W. Steck & Co., *Exochorda*, Alexandria, 138 bls. rags.
Keene, Inc., *Exochorda*, Alexandria, 132 bls. rags, 61 bls. old cottons, 93 bls. bagging.
———, *Exochorda*, Alexandria, 300 bls. rags.
E. J. Keller Co., Inc., *Exochorda*, ———, 250 bls. rags.
E. J. Keller Co., Inc., *City of Canton*, ———, 94 bls. paper stock.
E. J. Keller Co., Inc., *Manhattan*, ———, 134 bls. jute waste.
G. A. Henshaw & Son, *Manhattan*, Hamburg, 84 bls. flax waste.
———, *Manhattan*, Havre, 40 bls. rags.

BONE GLUE

———, *New York*, Hamburg, 75 bags.

OLD ROPE

———, *Stuttgart*, Hamburg, 44 coils.
W. Steck & Co., *Statendam*, Rotterdam, 73 coils.
G. A. Henshaw & Son, *Trentino*, Newcastle, 66 coils.

CHINA CLAY

J. Dixon Crucible Co., *St. Louis*, Hamburg, 998 bags, 51044 kilos.

WOOD PULP

A. Giese & Son, *Bilderdyk*, Rotterdam, 25 bls. wood pulp.
Absorbo Beer Pad Co., *Pr. Roosevelt*, Hamburg, 115 bls. wood pulp, 12 tons.
Bulkley Dunton Pulp Co., Inc., *Gripsholm*, Gothenburg, 600 bls. sulphite.
Pulp Specialties, Inc., *Gripsholm*, Gothenburg, 30 bls. sulphite.
———, *St. Louis*, Hamburg, 333 bls. wood pulp, 50 tons.
Castle & Overton, Inc., *St. Louis*, Hamburg, 3650 bls. wood pulp, 730 tons.
Johaneson Wales & Sparre, Inc., *St. Louis*, Hamburg, 1016 bls. chemical pulp, 203 tons.
Castle & Overton, Inc., *Blankaholm*, Viipuri, 2848 bls. wood pulp.
Lagerloef Trading Co., *Blankaholm*, Kirkkoniemi, 3575 bls. sulphite.
Lagerloef Trading Co., *Blankaholm*, Kotkam, 444 bls. wood pulp.
Lagerloef Trading Co., *Blankaholm*, Rauma, 3229 bls. sulphite.
Stora Kopparberg Corp., *Minnequa*, Skutskar, 1150 bls. dry pulp, 253 tons.
———, *Minnequa*, Horneborg, 900 bls. chemical pulp, 150 tons.
———, *New York*, Hamburg, 200 bls. wood pulp, 30 tons.
Castle & Overton, Inc., *New York*, Hamburg, 1000 bls. wood pulp, 200 tons.
Jeffrey Manfg. Co., *New York*, Hamburg, 8 bls. wood pulp.

WOOD PULP BOARDS

W. Bersch, *New York*, Hamburg, 175 bls.
Jay Madden Corp., *Pr. Roosevelt*, Hamburg, 302 bls.
Fibre Case & Novelty Co., *Gripsholm*, Gothenburg, 12 bls.
Salwen Paper Co., *Gripsholm*, Gothenburg, 38 bls.
Fibre Products Manfg Co., *Pr. Roosevelt*, Hamburg, 36 bls.
Rohner Gehrig & Co., *Pr. Roosevelt*, Hamburg, 108 bls.
———, *Blankaholm*, Viipuri, 451 rolls.
Jay Madden Corp., *Blankaholm*, Kotka, 417 bls., 185 rolls.
Jay Madden Corp., *Scanstates*, Kotka, 97 bls.
Flexideal Dry Mat Co., *Manhattan*, Hamburg, 139 cases.

NEWARK IMPORTS

WEEK ENDING OCTOBER 2, 1937

H. G. Craig Co., Inc., *Newscarrier*, Donnacona, 315 rolls newsprint.

ALBANY IMPORTS

WEEK ENDING OCTOBER 2, 1937

———, *Simon von Utrecht*, Stugsund, 500 bls. sulphite, 100 tons.
Brown Bros. Harriman & Co., *Simon von Utrecht*, Stugsund, 450 bls. sulphite, 90 tons.
Perkins Goodwin & Co., *Simon von Utrecht*, Munksund, 3000 bls. sulphate, 500 tons.
Perkins Goodwin & Co., *Simon von Utrecht*, Sundsvall, 3000 bls. sulphate, 500 tons.
Johaneson Wales & Sparre, Inc., *Simon von Utrecht*, Sundsvall, 3530 bls. sulphite, 670 tons; 1000 bls. chemical pulp, 200 tons; 750 bls. sulphate, 125 tons.
Bulkley Dunton Pulp Co., Inc., *Simon von Utrecht*, ———, 1000 bls. sulphite, 200 tons.
Price & Pierce, Ltd., *Tennessee*, Greaker, 3000 bls. bleached sulphite, 609 tons.
Price & Pierce, Ltd., *Tennessee*, Drammen, 450 bls. unbleached sulphite, 76 tons.
Atterbury Bros., Inc., *Tennessee*, Drammen, 1250 bls. chemical pulp, 253 tons.
The Borregaard Co., Inc., *Tennessee*, Drammen, 550 bls. sulphate, 93 tons.

PORTLAND IMPORTS

WEEK ENDING OCTOBER 2, 1937

Pagel Horton & Co., Inc., *Consul Olsson*, Sweden, 5000 bls. wood pulp.
M. Sone, *Lehigh*, Hamburg, 3038 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING OCTOBER 2, 1937

International Purchasing Co., *Bilderdyk*, Rotterdam, 54 coils old rope.
———, *Bilderdyk*, Rotterdam, 125 bls. bagging.
Horton & Hubbard Manfg. Co., *Bilderdyk*, Rotterdam, 23 bls. wood pulp boards.
Spaulding & Tewksbury, *Bilderdyk*, Rotterdam, 98 bls. wood pulp boards.
E. J. Keller Co., Inc., *Black Condor*, ———, 77 bls. bagging.
Royal Manfg. Co., *Black Condor*, Antwerp, 72 bls. cotton waste.
———, *Black Condor*, Antwerp, 74 bls. bagging, 99 bls. rags, 85 bls. flax waste.
Irving Trust Co., *Black Condor*, Antwerp, 89 bls. bagging.
International Purchasing Co., *Black Condor*, Antwerp, 58 coils old rope.
Parsons & Whittemore, Inc., *Lehigh*, ———, 447 bls. wood pulp.

Gottesman & Co., Inc., *Thalatta,* Sweden, 500 bls. sulphite.
Price & Pierce, Ltd., *Blankaholm,* ———, 450 bls. unbleached sulphite.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 2, 1937

United Clay Mines, *Bilderdyk,* Rotterdam, 205 tons china clay.
G. A. Henshaw & Son, *Banaderos,* London, 186 coils old rope.
Castle & Overton, Inc., *Exchester,* Leghorn, 71 bls. rags.
Neidich Process Co., *Scanstates,* Helsingfors, 122 bls., 1 cs. paper.
J. W. Hampton, Jr., Co., *Scanstates,* Kotka, 470 rolls newsprint.
Jay Madden Corp., *Scanstates,* Kotka, 303 rolls newsprint.
Castle & Overton, Inc., *Lehigh,* Hamburg, 3500 bls. wood pulp, 700 tons.
Castle & Overton, Inc., *Indep. Hall,* Havre, 876 bls. rags.
Ayres, W. C. Jones Co., *Indep. Hall,* Havre, 20 bls. thread waste.
M. Sone, *Frankfurt,* Hamburg, 1275 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING OCTOBER 2, 1937

Castle & Overton, Inc., *Scanstates,* Wiborg, 6018 bls. wood pulp, 1203 tons.
Lagerloef Trading Co., *Scanstates,* Wiborg, 5135 bls. sulphite, 1027 tons.
Lagerloef Trading Co., *Scanstates,* Kotka, 1180 rolls wood pulp boards.
Jay Madden Corp., *Scanstates,* Kotka, 131 rolls newsprint.
Pagel Horton & Co., Inc., *Minnequa,* Sweden, 4720 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 2, 1937

———, *Simon von Utrecht,* Stugsund, 4200 bls. sulphate, 842 tons.
Pagel Horton & Co., Inc., *Simon von Utrecht,* Pitea, 2550 bls. sulphate, 425 tons.
Johaneson Wales & Sparre, Inc., *Simon von Utrecht,* Sundsvall, 3010 bls. sulphite, 567 tons; 4200 bls. sulphate, 700 tons.
Mead Sales Co., Inc., *Simon von Utrecht,* Sundsvall, 9150 bls. sulphate, 1525 tons; 625 bls. chemical pulp, 125 tons.
Bulkley Dunton Pulp Co., Inc., *Simon von Utrecht,* ———, 1350 bls. sulphite, 270 tons.
Congoleum Nairn Co., *Exchester,* Marseilles, 221 bls. rags.
Parsons & Whittemore, Inc., *City of Norfolk,* ———, 279 bls. wood pulp.
M. Sone, *Maria,* Trieste, 1020 bls. wood pulp.
Pagel Horton & Co., Inc., *Minnequa,* Sweden, 8130 bls. wood pulp.
Gottesman & Co., Inc., *Thode Fagelund,* Norway, 1250 bls. sulphite.
Price & Pierce, Ltd., *Minnequa,* ———, 1302 bls. unbleached sulphite; 3600 bls. unbleached sulphate.

NORFOLK IMPORTS

WEEK ENDING OCTOBER 2, 1937

Herman Pack Co., *Bilderdyk,* Rotterdam, 120 bls. bagging.
Norfolk Newspapers, Inc., *Speybank,* Quebec, 4605 rolls newsprint.

NEWPORT NEWS IMPORTS

WEEK ENDING OCTOBER 2, 1937

———, *Simon von Utrecht,* Stugsund, 2200 bls. sulphate, 440 tons.
Mead Sales Co., Inc., *Simon von Utrecht,* Sundsvall, 3500 bls. sulphate, 585 tons.
Bulkley Dunton Pulp Co., Inc., *Simon von Utrecht,* ———, 1860 bls. sulphate, 310 tons.
The Borregaard Co., Inc., *Tennessee,* Bamble, 6000 bls. sulphate, 1016 tons.
Atterbury Bros., Inc., *Tennessee,* Drammen, 2075 bls. chemical pulp, 405 tons.

British Paper Production at High Level

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 25, 1937—British paper production was maintained at a high level during the second quarter and according to those familiar with the industry demand has as yet shown no signs of abating. Prices of raw materials have continued to advance with a resulting increase in prices of paper and converted products. It is complained that the time lag in passing the increased costs on to the consumers operates to the disadvantage of the manufacturer. There is a marked disinclination in the trade to attempt forecasts as to the demand for paper in the near future.

The heavy demand for paper throughout the year has naturally resulted in the continued large imports of wood pulp. On the basis of the approximate conversion factor used by some trade authorities (100 per cent wet weight equals 50 per cent dry) the total volume of pulp imports during the second quarter of 1937 reached approximately 30,000 tons (British tons of 2,240 pounds) in excess of imports for the same period in 1936. Prices for kraft, covered by the so called "Skankraft" agreement have been advanced by 30 shillings. With the sustained heavy demand for paper and a general shortage of raw materials, it is asserted in some sections of the trade that there are no obvious grounds upon which a decline in prices can reasonably be anticipated.

The returns of imports of paper for the 3 months ended June 30, 1937, show that imports of newsprint, printings, writings, glazed and machine glazed packings and wrappings, as well as other wrapping papers, were 15 per cent larger in volume and 41 per cent higher in volume than imports during the comparable period in 1936.

Microscopy of Paper

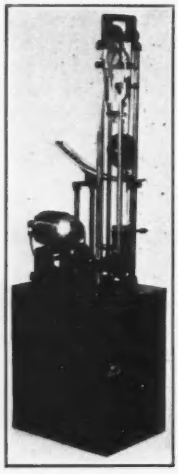
The Technical Association of the Pulp and Paper Industry has just issued its first special bibliography on the Microscopy of Paper by John B. Calkin of Dennison Manufacturing Company and formerly chairman of the TAPPI subcommittee on microscopical paper testing methods.

The bibliography is a forty-seven page booklet covering books; general articles; microscopical equipment; general methods for fiber length, photomicrography, sectioning and illumination; raw materials; fiber analysis dealing with the preparation of the sample, methods of analysis, fiber differentiation, stains, and morphology; pulping; beating, surface and formation; detection of forgeries; spots and specks such as are caused by micro-organisms, foreign particles and defects; structure of fibers; microscopy of mill equipment; and mill effluents.

The author began collecting the material for this bibliography about ten years ago and believes that the final product is reasonably complete. In the final preparation he was aided by an educational cooperation committee financial grant by the Technical Association and the latter has financed the publication of bibliography and issued a copy to each of its members. Copies may be obtained by non-members at one dollar each from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd street, New York, N. Y.

Amthor Tensile Strength Tester

The Amthor Testing Instrument Company, 4 Leo Perce, Brooklyn, N. Y., announces the introduction of a New Universal Tensile Strength Tester. This tester is designed to conform with standard specifications for determining simultaneously the tensile strength and elongation of wire—cordage—rubber—paper and similar materials.



The tester operates on the pendulum principle and has a maximum capacity of 300 pounds. The 24 inch radius quadrant has a three range scale on which the load is directly indicated by the pendulum arm. This three scale arrangement provides a more open reading on low strength materials. Readings remain fixed at the exact breaking point on the load scale.

An elongation dial indicator shows readings in both inches and percent for all materials except rubber, for which a special elongation scale is furnished. All readings on both elongation scales remain fixed until reset to zero.

The tester is furnished with three standard pulling speeds of 3—12 and 20 inches per minute. Power on the pulling clamp is produced by a 1/6 h.p. constant speed motor.

Proper clamps are provided for the materials to be tested.

The tester occupies a floor space of 18x22 inches and stands 74 inches high. No special installation is necessary.

A complete, detailed and illustrated circular will be sent on request.

Concessions on Newsprint Contracts

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 22, 1937—One of the foremost newsprint producers in the United Kingdom has been successful in securing concessions from the owners of London newspapers on contracts for newsprint covering the 1938 period, according to a recent report from Assistant Commercial Attache James Somerville, London. According to Financial News (London), at a meeting of certain London newspaper proprietors with the directors of the company, they are agreed in principle that payment for newsprint supplies in 1938 should be increased by 30 shillings ($7.47 at current exchange rate) a ton over the contract price of £10 ($49.80) a ton. The ton referred to is the British ton of 2,240 pounds, which would make the new price equivalent to about $51.00 per short ton.

Shartle's to Market New Type Steam Fit

A new type, self-oiling steam fit has been developed by Shartle Brothers of Middletown, Ohio. Soon to be placed on the market, this steam fit is pressure sealed against leakage. Shartle's also state that the syphon piping can be easily removed without disturbing other parts of the fit.

An illustrated bulletin will soon be issued describing the new product in detail.

Triple Drain Channel Roofing

A new roofing product has been developed by Republic Steel Corporation, Cleveland, Ohio, and is now being introduced to the market under the trade name of Republic Perfected Triple Drain Channel Roofing.

A chief feature of Triple Drain's construction lies in the use of four ridges and three valleys in each channel unit, thus providing three drainage channels instead of the conventional one or two. Because of this innovation, neither driving rain nor capillary attraction (Syphoning or seepage) can cause leaks.

A beaded channel makes a tight fit at the overlapping edge, creating a vacuum action. Any rain passing this point is carried into the center channel through the action of gravity.

For convenience, the proper area for nailing Triple Drain roofing is indicated clearly by blue lines on each sheet. Triple Drain is available in three types of metal—steel, copper-bearing steel, and rust-resisting Toncan Iron, an exclusive product of Republic Steel Corporation. It is furnished in 26, 28 or 29 gauge and in lengths ranging from 5 to 12 feet with a covering width of 24 inches.

The addition of Triple Drain rounds out Republic's line of roofing products, which now includes: corrugated sheets, pressed standing seam, V-crimped, DCL roll and roll and cap roofing, super dry channel type, Super X shingles, plain and corrugated ridge roll, corrugated eave joint, gambrel joint and flashing, roll valley, weather board siding, plain, rock and brick siding.

Triple Drain and other roofing products are available through the more than 100 distributors of Toncan Iron and other jobbers of sheet products throughout the United States.

Color Lectures

The Association for Color Research will present a series of six Tuesday evening lectures beginning on October 12 and continuing until November 30, 1937 in Room 825, Fine Arts Building, 410 So. Michigan Ave., Chicago, Ill. The fee for the course will be five dollars. Details may be obtained from Miss Katherine Chandler, 111 West Washington Street, Chicago. Telephone 6161.

Robert A. Voet, a member of the Technical Association of the Pulp and Paper Industry will be in charge of the first three lectures which will consist of laboratory demonstrations illustrating the physical basis of color and the chemical nature and production of pigments and dyes. Mr. Voet is research director of the United Wall Paper Mills. The course is open to anyone interested.

ADSCO Water Heaters

A revised, six-page, illustrated Bulletin No. 35-76 on ADSCO Water Heaters for industrial and institutional installations including the Type E heater for gravity recirculation, submerged heater and condensate cooling service and Type F heater for maintaining suitable water temperatures to prevent the freezing of water in elevated steel or wooden tanks, is available by addressing the American District Steam Company, North Tonawanda, N. Y.

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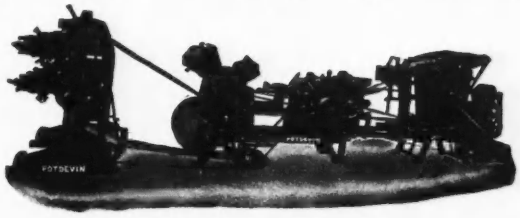

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New York Market Review

Office of the PAPER TRADE JOURNAL
Wednesday, October 6, 1937.

The paper markets reflect for the current week the temporary recession in volume of sales reported by business in general. Sales are stated to be lower than expectations, though a pace of moderate activity continues. Prices, in general, are firm.

The newsprint market is active, with a normal volume of shipments moving under contract.

Book papers are reported to be in moderate demand, while writing and fine papers in general, are still under the influence of what is stated to be a lagging consumer demand.

The demand for kraft papers is active, with expectations that the upward trend in demand and slightly higher prices, may set in before long.

The box board market is less than seasonal active and while the expected pick-up has not yet set in, expectations in the trade are for an improved demand in October.

Chemical Pulp

The chemical pulp market is stated to be moderately active. The supply of imported grades is limited and a slight decline in sales volume is reported. Prices of both domestic and foreign pulp are firm and unchanged from the quotations of last week.

Mechanical Pulp

The demand for mechanical pulp continues on the level of the preceding week. Prices are firm and unchanged for the current week.

Old Rope and Bagging

The old rope and bagging markets continue moderately active. The volume of sales is only slightly under normal for the week. Prices remain firm and unchanged from last week.

Rags

The demand for domestic rags is moderately good. No change is reported in new rags, though slightly lower quotations are reported in some grades of old rags. The foreign rag market is unchanged for the current week.

Waste Paper

The demand for waste paper is steady, the lower grades being reported as moving somewhat slowly. The prices of the higher grades continue firm.

Twines

The twine market is moderately active. Prices are firm and unchanged from the quotations of last week, with the exception of cottons which are slightly lower.

$1,500,000 May Be Realized for Hardwood

HANOVER, N. H., October 11, 1937—Dartmouth College will realize more than $1,500,000 on its timberland holdings through development of a process for converting hardwoods into pulp for the manufacture of plastics, lacquers, rayons and high grade papers, it was learned reliably today.

This new process was recently developed by the Brown Company of Berlin, N. H., New England's largest producer of paper and wood pulps. Formerly only softwoods were converted into pulps as a base for women's fine rayon dresses, lingeries, short fibers for men's clothing, ashtrays, gearshift and dashboard knobs, radio equipment and other moulded articles.

For ten years, from 1921 to 1931, the Brown Company cut the softwoods from the Dartmouth College Grant, near here, and left the hardwoods standing as worthless. The college was paid approximately $1,500,000 for this timber.

With development of this new hardwood process, it was felt that the Brown Company might provide a market for the 25,500 acres of hardwoods in the College Grant as soon as its reorganization plan, now on file in Federal Court at Portland, Maine, is approved. It is estimated that approximately 15,000 cords of birch, beech and maple can be cut from the grant each year for the next ten or twelve years. It is conservatively estimated that the college may realize well over $1,500,000 if a contract is let for cutting the hardwood.

H. A. Legge Made Managing Director

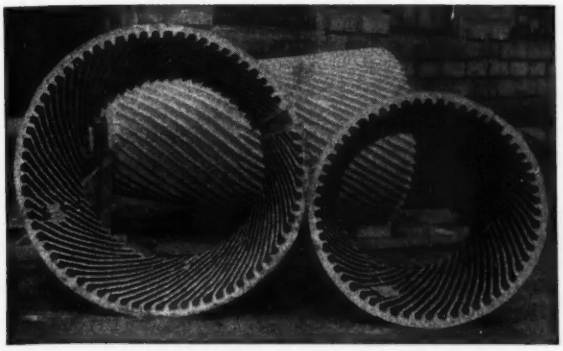
The following announcement has been sent out by Maxwell Howard, president:— "I desire to announce that I have appointed as successor to Howell H. Howard, Harry A. Legge managing director of the following companies: Howard Paper Company, Urbana, Ohio; Maxwell Paper Company, Franklin, Ohio; Aetna Paper Company, Dayton, Ohio; Dayton Envelope Company, Dayton, Ohio.

"Harry A. Legge has been associated with the Howard Paper Company and its allied mills from boyhood in various capacities, never having been employed elsewhere. This promotion is in recognition of his long loyal years of service to the mills and his training as a capable paper mill executive. May I now express the hope that the Paper Trade will give Harry Legge the same consideration and courtesy they always extended his predecessor, Howell H. Howard."

Clutch For Paper Mills

In Bulletin L 28, the Conway Clutch Company, of 1536 Queen City avenue, Cincinnati, Ohio, list their line of large disc clutches. The heavy duty, Series 3900 clutch, designed for paper mills, is included.

REG. U.S. PAT. OFFICE "POSITIVE" TRADE MARK



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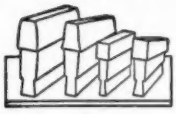

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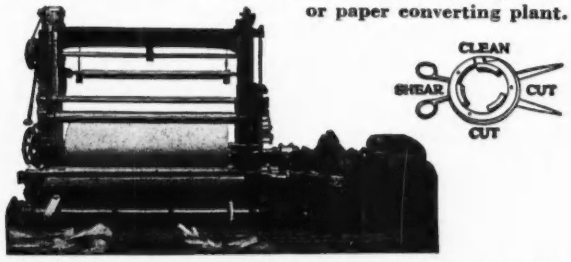

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THE SABIN ROBBINS PAPER COMPANY

STATION A CINCINNATI, OHIO

Miscellaneous

Office of the PAPER TRADE JOURNAL,
Wednesday, October 6, 1937.

BLANC FIXE—The blanc fixe market continues steady. Prices are firm and unchanged from the quotations of last week. Quotations of pulp range at from $42.50 to $45 per ton, in bulk. The powder is quoted at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—The bleaching powder market is firm. Prices are unchanged for the week at prevailing quotations. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The casein market is active and prices are firm. Domestic standard ground casein is offered at 15 cents per pound, while domestic finely ground casein is also quoted for the week at 14 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA—The demand for caustic soda is good. Quotations for solid caustic soda range at from $2.10 to $2.30. The flake and ground is quoted at from $2.50 to $2.70 per 100 pounds, in drums at works.

CHINA CLAY—The china clay market continues active. Imported clay is quoted at from $14.50 to $25 per ton, ship side. Prices of domestic filler clay are quoted at from $6.50 to $12 per ton; coating clay at from $11 to $22 per ton, all prices at mines.

CHLORINE—The chlorine market is reported as active. Prices are firm and unchanged from the quotations of last week. Chlorine is quoted at $2.15 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The rosin market continues firm. Paper making rosin is quoted at $7.65, and wood rosin at $7.70, per 280 pounds, gross weight, in barrels at Savannah. Seventy per cent rosin size is quoted at $3.55 per 100 pounds, in tank cars, f.o.b., shipping point.

SALT CAKE—The demand for salt cake continues good. Quotations range from $12 to $13; chrome salt cake at from $10 to $11, f.o.b., shipping point. Imported salt cake is quoted at from $14.50 to $15 per ton, Gulf or Atlantic Seaboard, on dock.

SODA ASH—The soda ash market is seasonably active with a good demand from paper mills. Quotations on soda ash in car lots, at works, per 100 pounds, are as follows: in bulk, $.90; in bags, $1.05; and in barrels, $1.35.

STARCH—The demand for starch continues on a hand-to-mouth basis, in expectation that the large corn crop may force prices to slightly lower levels. Paper making starch is quoted at $3.45 per 100 pounds, in bags, and at $3.70 per 100 pounds, in barrels, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—The demand for sulphate of alumina continues good, with contract shipments moving in normal volume. The commercial grades are quoted at from $1.25 to $1.60; iron free at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR—The sulphur market is firm, with prices at prevailing levels. Annual contracts are quoted at $18 per long ton, f.o.b., cars at mines. Spot and nearby car lots are quoted at $21 per ton. All prices in car lots.

TALC—The demand for talc continues good. Prices are firm. Quotations on domestic talc range at from $15 to $18 per ton, Eastern mines. Imported talc is quoted at from $25 to $40 per ton, on dock.

Market Quotations

Paper

Tissues—Per Ream—

White No. 1	1.10	@	—
White No. 1 M. G.	1.07½	@	—
White No. 1½	.77½	@	—
White No. 2	.75	@	—
Anti-Tarnish M. G.	.77½	@	—
Colored	.90	@	—
Kraft	.77½	@	—
Manila	.75	@	—
Unbleached Toilet	2.90	@	3.30
Bleached Toilet	3.94	@	5.26

Paper Towels—

Unbleached	2.10	@	3.35
Bleached	3.30	@	3.70

Manila—

No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00

Fibre Papers—

No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75

(Delivered New York)

News, per ton—

Roll, contract	42.50	@	—
Sheets	47.50	@	—

Kraft—

No. 1 Northern	5.25	@	5.75
Standard	5.00	@	—
Southern	4.50	@	—
Machine glazed, plain, striped	5.00	@	—

Boards, per ton—

Chip	40.00	@	—
News	40.00	@	—
Sgl. Mla. Ll. Chip	52.50	@	—
Jute Lined Chip	52.50	@	—
White Pat. Coated	67.50	@	—
Kraft Liners	52.50	@	—
Binders Boards	65.00	@	70.00

The following are representative of distributors' resale prices:—

Rag Content Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext.		
No. 1.	$41.40@$48.50	$42.55@$50.00
100% Rag	32.80@ 38.50	33.95@ 39.75
85% Rag	.....	32.20@ 37.75
75% Rag	24.75@ 29.00	25.90@ 30.50
65% Rag	21.65@ 26.25	22.80@ 27.75
50% Rag	18.70@ 22.75	19.90@ 24.25
25% Rag	15.80@ 19.25	16.95@ 20.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra

Sulphite Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
No. 1.	$9.35@$11.50	$10.55@$12.75
No. 2.	8.50@ 10.25	9.65@ 11.75
No. 4.	7.60@ 9.25	8.80@ 10.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra.

Free Sheet Book Papers—
White, Cased Paper,
Delivered in Zone 1:

No. 1 Glossy Coated	$12.45	@$14.25
No. 2 Glossy Coated	10.80	@ 12.25
No. 3 Glossy Coated	9.65	@ 11.00
No. 4 Glossy Coated	9.05	@ 10.50
No. 1 Antique (watermarked)	9.05	@ 10.50
No. 2 Offset	8.35	@ 9.50
A Grade E. F.	8.20	@ 9.50
A Grade S. & S. C.	8.45	@ 9.75
B Grade E. F.	7.60	@ 8.75
B Grade S. & S. C.	7.85	@ 9.00
C Grade E. F.	7.30	@ 8.50
C Grade S. & S. C.	7.55	@ 8.75
D Grade E. F.	7.00	@ 8.25
D Grade S. & S. C.	7.25	@ 8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—

Moist	35.00	@36.00
Dry	40.00	@42.00

(Delivered)

No. 1 Domestic and Canadian	36.00	@37.50

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	3.50	@	5.25
Prime Qualities—			
Easy-Bleaching Sulphite	3.50	@	4.25
Strong Unbleached Sulphite	3.00	@	4.00

(On Dock, Atlantic Ports)

Kraft Bleached	4.00	@	4.75
Kraft Light & Strong	3.00	@	3.75
Kraft No. 1	2.90	@	3.65
Kraft No. 2	2.50	@	2.75

(F.o.b. Pulp Mill)

Kraft Domestic	2.00	@	3.10

(Delivered)

Soda Bleached	3.25	@	—

Add 60 cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	8.75	@	9.00
Silesias, No. 1	6.63	@	6.88
New Unbleached	6.75	@	7.00
Blue Overall	6.75	@	7.00
Fancy	3.75	@	4.00
Washables	2.75	@	3.00
Mixed Khaki Cuttings	4.25	@	4.50
O. D. Khaki Cuttings	4.75	@	5.00

Old Rags

White, No. 1—			
Repacked	3.75	@	4.25
Miscellaneous	3.00	@	3.25
White, No. 2—			
Repacked	2.60	@	2.85
Miscellaneous	2.00	@	2.25
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.90	@	2.00
Roofing Rags—			
No. 2	1.40	@	1.50
No. 1	1.30	@	1.40
No. 3 (bagging)	.85	@	.95
No. 4	.90	@	1.00
No. 5A	.65	@	.75

Foreign Rags

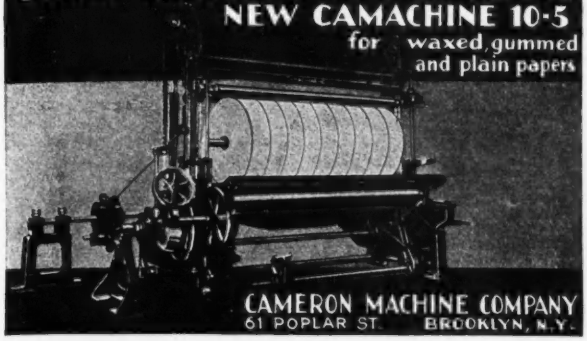
New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	@	2.20
New Light Silesias	5.50	@	5.75
Light Flannelettes	5.50	@	5.75
New White Cuttings	7.00	@	7.50
New Light Oxford	4.00	@	4.50
New Light Prints	3.00	@	3.25

Old Rags

No. 1 White Linens	7.50	@	8.50
No. 2 White Linens	6.50	@	7.50
No. 3 White Linens	4.50	@	5.50

1500 FEET PER MINUTE
NEW CAMACHINE 10-5
for waxed, gummed and plain papers



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No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	@	4.75
No. 2 White Cotton.	3.25	@	3.75
No. 3 White Cotton.	2.50	@	3.00
No. 4 White Cotton.	1.90	@	2.20
Extra Light Prints..	2.00	@	2.40
Ord. Light Prints...	1.75	@	2.15
Med. Light Prints...	1.55	@	1.95
Dutch Blue Cottons..	2.25	@	2.50
French Blue Linens..	3.00	@	—
Checks and Blues...	2.00	@	—
Linsey Garments....	2.10	@	2.20
Dark Cottons.....	1.75	@	1.85
Old Shopperies.....	1.60	@	—
New Shopperies.....	1.60	@	—
French Blues.....	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	2.20	@	2.30
Domestic	2.25	@	2.35
Wool Tares, light	1.75	@	1.85
Wool Tares, heavy...	2.10	@	2.15
Light Bagging.....	1.70	@	1.75
Manila Rope—			
Foreign	3.75	@	4.00
Domestic	4.00	@	4.25
Strings.....	2.75	@	3.00
Sisal Strings.....	2.35	@	2.45
Mixed Strings.....	Nominal		

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.10	@	3.25
Ordinary Hard White No. 1....	2.60	@	2.70
Hard White No. 2.	2.40	@	2.50
Soft White No. 1..	2.30	@	2.40
Flat Stock—			
Stitchless	1.15	@	1.25
Overissue Mag.....	1.15	@	1.25
Solid Flat Book...	1.00	@	1.10
Crumbled No. 1...	.75	@	.85
Ledger Stock.....	1.55	@	1.60
New B. B. Chips....	.45	@	.50
Manila—			
New Env. Cut.....	2.15	@	2.25
New Cuttings.....	1.65	@	1.75
Old Kraft Machine—			
Compressed bales..	1.40	@	1.55
News—			
No. 1 White News	1.40	@	1.50
Strictly Overissue.	.60	@	.70
Strictly Folded....	.42½	@	.47½
No. 1 Mixed Paper..	.35	@	.40

Twines

(F. o. b. Mill)

(Soft Fibre)			
Coarse Polished—			
India	.16	@	.17½
White Hemp.....	.17	@	.20½
India Compress....	.16½	@	.17
Fine Polished—			
Fine India.....	.22	@	.28
Unpolished—			
Box	.12½	@	.15½
Paper Makers.....	.11½	@	.13¾
Tube Rope.....	.12½	@	.15¼
Wall Paper.....	.13½	@	.14¾
Wrapping	.17	@	.21
Soft Fiber Rope..	.14¾	@	.15¾
(Hard Fibre)			
Medium Java.....	.13½	@	.14
Mex. Sisal.....	.12	@	.12½
Manila	.22	@	.29½
Domestic	—	@	3.75
Transmission Rope..	2.00	@	2.25
Soft Jute Ropes.....	2.25	@	2.50
Jute Carpet Threads.	1.75	@	2.00
Gunny No. 1			
Foreign	2.50	@	2.55
Domestic	2.10	@	2.15
Bleachery Burlap....	4.00	@	4.25
Scrap Burlap—			
Foreign	2.25	@	2.40
Domestic	1.75	@	1.85
Scrap Sisal.....	2.25	@	2.30
Scrap Sisal for Shredding	2.40	@	2.50
Wool Tares, heavy...	—	@	2.25
New Burlap Cuttings	2.45	@	3.00
Aust. wool pouches..	3.50	@	3.60
Heavy bailing bagging	2.50	@	2.70
Paper Mill Bagging..	1.70	@	1.75
Bagging No. 2.....	1.00	@	1.10

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	.03½	@	.03¾
New White No. 1.	.08	@	.08¼
New White No. 2.	.06	@	.06¼
New Light Flannelettes	—	@	.06½
Silesias No.....	—	@	.06½
New Black Silesias.	.04¼	@	.04½
Soft Unbleached...	.09	@	.09¼
Blue Cheviot.....	.07¼	@	.07½
Fancy	.03¾	@	.04
Washable	.03	@	.03¼
Cottons—According to grades—			
Blue Overalls.....	.07	@	.07¼
New Black, soft.....	.04¼	@	.04½
Khaki Cuttings.....	.04½	@	.04¾
O. D. Khaki.....	.04¾	@	.05
Corduroy	.03¼	@	.03½
New Canvas.....	.07¾	@	.08¼
B.V.D. Cuttings.....	.08¾	@	.09

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues.....	1.75	@	2.00
Third and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings.....	3.90	@	4.00
Roofing Stock—			
No. 1.....	—	@	1.40
No. 2.....	—	@	1.25
No. 3.....	—	@	1.15

Foreign Rags

(F. o. b. Boston)

Dark Cottons.....	1.60	@	1.70
Dutch Blues.....	2.90	@	3.05
New Checks and Blues	2.85	@	3.00
Old Fustians.....	2.85	@	3.00
Old Linsey Garments	2.15	@	2.50
New Silesias.....	6.50	@	7.00

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	—	@	.08
New White, No. 2.	.04½	@	.05
Light Silesias.....	.05½	@	—
Silesias, No. 1....	—	@	.05½
Black Silesias, soft.	.03	@	.03½
New Unbleached..	.08	@	.08½
Washable, No. 1..	.02¼	@	.02½
Blue Overall.....	.05½	@	.06
Cottons—According to grades—			
Washable, No. 2..	—	@	.02
New Blue.....	.01¾	@	.02
Fancy Percales....	—	@	.03½
New Black Soft...	.03	@	.03½
New Light Seconds	—	@	.05½
New Dark Seconds	1.25	@	1.50
Khaki Cuttings—			
No. 1 O. D.....	.04	@	.04½
No. 2 Mixed.....	—	@	.03
Corduroy	.02¼	@	.03
New Canvas.....	.06½	@	.07
New Black Mixed.	.02	@	.02¾

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
Thirds and Blues—			
Miscellaneous	2.00	@	2.25
Repacked	2.25	@	2.50
Black Stockings (Export)	4.50	@	5.00
Roofing Stock—			
Foreign No. 1....	1.75	@	2.00
Domestic No. 1...	1.50	@	1.70
Domestic No. 2...	1.30	@	1.40
Roofing Bagging..	—	@	1.25

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.80	@	2.00
Domestic	2.00	@	2.25
Manila Rope.....	4.25	@	4.50
Sisal Rope.....	2.00	@	2.25
Mixed Rope	1.00	@	1.10
Scrap—			
No. 1.....	1.75	@	2.00
No. 2.....	1.00	@	1.25
Wool Tares, heavy..	3.25	@	3.50
Mixed Strings.....	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.55	@	2.75
No. 2 Hard White.	2.40	@	2.55
No. 1 Soft White..	2.40	@	2.55
No. 2 Soft White..	1.50	@	1.75
No. 1 Mixed.....	.80	@	.90
Solid Ledger Stock..	1.75	@	1.85
Ledger Stock, white.	1.60	@	1.70
Ledger Stock, colored	1.35	@	1.45
No. 1 Books, heavy..	1.05	@	1.10
Manila Cuttings.....	1.75	@	1.85
Print Manila.....	.50	@	.55
Container Manila....	.45	@	.50
Kraft Paper.....	1.30	@	1.40
No. 1 Mixed Paper..	.35	@	.45
Straw Board Chip...	.40	@	.45
Binders Board Chip.	.40	@	.45
Corrugated Board...	.50	@	.55
Overissue News.....	.60	@	.65
Olds Newspapers....	.40	@	.45

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White.	2.25	@	2.40
No. 1 Soft White..	1.85	@	2.15
No. 2 Mixed.....	.75	@	.80
Solid Ledger Books..	1.50	@	1.75
Overissue Ledger Stock	1.30	@	1.50
Mixed Ldgers.....	.85	@	.90
No. 1 Books, heavy..	1.00	@	1.10
No. 1 Books, light..	.65	@	.75
Crumpled Stitchless Book Stock.....	.50	@	.60
Manila Env. Cuttings	1.60	@	1.70
Manila Env. Cuttings, extra quality.....	2.20	@	2.30
No. 1 Old Manila...	.95	@	1.00
White Blank News..	1.30	@	1.40
No. 1 Kraft.....	1.60	@	1.65
Mixed Papers.....	.30	@	.32½
Print Manila.....	.60	@	.65
Container Manilas...	.27½	@	—
Old Newspapers.....	.37½	@	.40
Overissue News.....	.45	@	.50
Box Board Chips....	.35	@	.40
Corrugated Boxes...	.42½	@	.47½
Kraft corrugated boxes	1.20	@	1.22½
Screening Wrappers..	.60	@	.65

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	—	@	3.75

CHICAGO

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	3.30	@	3.40
No. 1 Hard White.	2.60	@	2.70
No. 1 Soft White..	2.10	@	2.15
Ledger & Writings..	1.40	@	1.50
Solid Books.....	1.25	@	1.30
Blanks	1.50	@	1.65
Krafts	1.00	@	1.25
New Kraft Cuts....	1.80	@	2.00
Manila Env. Cuts...	2.20	@	2.35
Ex. No. 1 Manila...	2.20	@	2.35
Print Manila.....	1.70	@	1.80
Overissue News.....	.80	@	.90
Old Newspapers—			
No. 1 Folded News	.80	@	.90
No. 1 Mixed Paper	.80	@	.90
Roofing Stocks—			
No. 1.....	2.00	@	2.25
No. 2.....	1.85	@	2.00

TORONTO

Paper

Bonds and Ledgers

Delivered

No. 1 White	.35½	@	.36½
No. 1 Tints	.36½	@	.37½
No. 2 White	.26½	@	—
No. 2 Tints	.27½	@	—
No. 4 White	—	@	.1550
No. 4 Tints	.16	@	.1650
No. 5 Bond—White .	11.35	@	—
No. 5 Bond—Tints .	12.35	@	—
No. 5 Bond—Golden Rod	13.35	@	—
No. 5 Ledger—White .	.1185	@	—
No. 5 Ledger—Tints.	.1285	@	—
No. 6 Bond—White .	10.75	@	—
No. 6 Bond—Tints .	11.25	@	—
No. 6 Bond—Golden Rod	12.75	@	—
No. 7 Bond—White .	9.10	@	—
No. 7 Bond—Tints .	9.60	@	—
No. 7 Bond—Golden Rod	11.10	@	—
Book—			
No. 1 M. F.	7.10	@	7.35
No. 2 M. F.	6.85	@	7.20
No. 3 M. F.	5.60	@	6.20
No. 1 S. C.	7.60	@	7.85
No. 2 S. C.	7.10	@	7.35
No. 3 S. C.	6.10	@	6.35
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.00	@	—
No. 3 Coated and Litho	9.50	@	10.00
Coated tinted.....	13.00	@	13.50
Wrapping—delivered—			
Rag Brown.....	4.85	@	5.55
White Wrap.....	4.00	@	—
"B" Manila.....	4.90	@	6.25
No. 1 Manila.....	5.50	@	7.00
Fiber	5.50	@	—
Kraft, No. 2.....	5.50	@	—

(F. o. b. Cars, Toronto)

News, per ton—			
Rolls (contract)...	38.50	@	—
Sheets	45.50	@	—

Pulp

Ground wood.....	32.00	@	—
Unbleached Sulphite.	59.00	@	—
Book (Class 1).....	71.00	@	—
Writing (Class 2)..	72.00	@	—
Select (Class 3).....	73.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut...	2.50	@	—
Soft White.....	2.15	@	—
White Blk. News..	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.00	@	—
Light and Crumpled Book Stock.	.85	@	—
Ledgers and Writings	1.20	@	—
Manilas—			
New Manila Cut...	1.50	@	—
Printed Manilas...	.65	@	—
Kraft	1.00	@	1.70
News and Scrap—			
Strictly Overissue.	.65	@	—
Strictly Folded....	.60	@	—
No. 1 Mixed Paper..	.50	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09	@	.09¼
Fancy Shirt Cuttings	.03½	@	.03¾